DEESME

National schemes for energy efficiency in SMEs

Deliverable 4.4

Report on Key Actors Working sessions

Author: Claire Chretien, EEIP

DEESME has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 892235.

DEESME
National schemes for energy efficiency in SMEs

Project information

Project Title	Developing national schemes for energy efficiency in SMEs
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Project Number	892235
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Legal Notice

About DEESME

Unlike the large companies, SMEs have less technical human and financial resources to improve their energy efficiency. Barriers have been deeply investigated including lack of awareness, low capital, difficulty to access financing, doubts around actual saving potential and the lack of technical human resources. To provide SMEs with technical resources such as methodologies, best practices, technology inventories and subsidies, national schemes exist. Some of the schemes introduce mandatory actions (energy analysis) to obtain such subsidies. Nevertheless, national policy schemes have failed to some extent to convince SMEs that the energy audit is something more than a "bureaucratic fulfilment" to obtain a contribution and to push large companies to take the step from the analysis to the investment. To overcome that, DEESME aims at:

a) Enabling companies to manage the energy transition by taking profit of multiple benefits and energy management approaches,

b) Supporting the development and implementation of energy efficiency EU policies in the framework of article 8 of the Energy Efficiency Directive, beyond the project, by providing national authorities with guidelines and recommendations on how to strengthen the national schemes, and

c) Enhancing the adoption of the DEESME approach by National Authorities beyond the project timeline through the implementation of institutionalization activities.

The project will identify and share best practices from national schemes, EU projects and other initiatives with national authorities and support them in developing more effective schemes dealing with energy audits and energy management systems. It will finally assist SMEs to develop and test the technical DEESME solutions by organizing information and training initiatives, realising energy audits and implementing energy management systems starting from international standard and adding the multiple benefits energy efficiency approach.

The project is built on a consortium of academics, research organisations, consultancies and government offices from Belgium, Bulgaria, Germany, Italy, the Netherlands and Poland, namely: IEECP (NL, coordinator), FIRE (IT), SOGESCA (IT), Fraunhofer ISI (DE), CLEOPA (DE), SEDA (BG), ECQ (BG), KAPE (PL), EEIP (BE).

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DEESME
National schemes for energy efficiency in SMEs

Table of Contents

Abbreviations

EMS – Energy Management system
EPBD - EU Energy Performance of Buildings Directive 2010/31/EU
ESCO - Energy service company
EU EED - EU Energy Efficiency Directive 2012/27/EU
MBA – Multiple Benefits Approach
MS – Member States
NA - National Authorities
NEB - Non-Energy-Benefits
SME – Small and medium-sized enterprises
WP – Work Package

Executive Summary

The aim of the report is to gather information related to the working sessions/workshops organised in each implementation country (Germany, Bulgaria, Italy and Poland) under *T4.3 Exchanging knowledge during the campaign: meetings among partners and key actors.*

This task aims at involving key actors and companies to share the knowledge developed during the campaign and to improve the communication towards companies. It was foreseen that three working sessions would be organised in each country, but this was adapted to each national context to better suit the key actors' structures and needs. Recommendations coming from the business reaction to the campaign and the key actors' points of view will be the topic of a second deliverable under T4.3 (D4.5 Recommendations for National Schemes).

Implementation was delayed by a few weeks in some countries, but the task was completed in March 2023 and will pave the way to the implementation of WP5, *Institutionalization of DEESME policy outcomes.*

1. Introduction

1.1. The DEESME campaign

The DEESME campaign for energy efficiency is the central element to Work Package 4, which is focused on increasing the attractiveness of the solutions adopted by DEESME during the implementation of Work Package 3, *Enabling companies to take profit of multiple benefits and energy management approach*. More specificallt, the objectives of the campaign were:

- to consolidate relationships with key actors to support the effective planning of the campaign and its promotion within their networks,
- to increase key actors' skills, capabilities and competencies with reference to DEESME multiple benefits approach,
- to raise awareness and develop an understanding of the DEESME multiple benefits approach and the multiple energy and non-energy benefits among companies,
- to increase the interest of business managers and energy managers about the concrete advantages of the DEESME approach,
- to exchange knowledge and lessons-learned between key actors, companies and partners to strengthen the exploitation of the DEESME approach after the formal conclusion of the project,
- to collect feedback on the campaign from the involved key actors and companies to improve further communication towards companies and gain a higher impact of replicated campaign activities,
- and to receive guidelines and recommendations for improving national schemes for energy efficiency by the involved key actors.

Deliverable 4.1 defines the communication actions supporting the campaign, while Deliverable 4.2 gives an overview of its implementation in each country.

1.2. Purpose of the working sessions with Key Actors

In this context, the purpose of the working sessions with Key Actors was to share the know-how developed with the project and to collect their points of view, in order to draft recommendations to be addressed to the competent European and national authorities for the improvement of the national schemes supporting the implementation of the Energy Efficiency Directive. As such, the results of this task directly feeds into further activities planned under WP5 to mainstream and institutionalize the policy outcomes from the project.

1.3. Workplan and methodology

It was initially foreseen to break the exchanges with the Key Actors in three workshops or sessions, with the following structure:

1. First workshop: explaining to the participants the framework for collecting their points of view and sharing of results, concepts and methods of the DEESME project

2. Second workshop: presentation by national agency and opportunity to discuss on the topic of the development of the European and local schemes for energy efficiency
3. Third workshop: collection of Key actors' points of view and formulation of recommendations for policy makers

While this overall structure was applied in three of the four implementation countries, it was adapted in Bulgaria, with one large event and follow-up though an online survey (see Bulgaria section below).

SOGESCA put together a set of questions to be used during the workshops, to provide guidance and consistency throughout the consultations (Box 1 below).

The "guided" discussion during the workshops should stimulate **answers/feedback on "at least" the following issues** (if any other issue is deemed of importance it should be addressed, **also taking inspiration from the results of the surveys carried out in the framework of WP2):**

- Do businesses have a clear understanding of which official websites to consult to obtain information on obligations, benefits and other aspects related to energy efficiency (e.g. those of the competent authorities / agencies, others…)?

- Do you think it is clear what incentives are available to companies for energy audits, the energy management system and energy efficiency investments?

- With reference to the existing incentive systems, do you think that a centralized information hub would be appropriate for information rather than a division of information availability between several subjects (e.g. State, Regions, Agencies, etc.)?

- With reference to the existing incentive systems, do you think that the involvement of the sector trade associations would be appropriate in providing information? Do you have any suggestions on this?

- Are companies aware on the added value linked to energy efficiency?

- To increase the uptake of energy efficiency measures, do you think it would be useful to have more information on Non-Energy Benefits (e.g., "Multiple Benefits) related to energy efficiency? (Examples of investments analysis, presentations of best practices, guidelines for evaluating multiple benefits)

- What tools do you think could be useful for increasing the sensitivity and awareness of companies CEO, managers, etc. about non energy benefits?

- What tools do you think could be useful for increasing the sensitivity and awareness of companies' employees about non energy benefits?

- Do you think that a unified and clear information framework (a set of structured guidelines) could be useful to help clarify the relationships between energy obligations – or NON-obligations - and sustainability? (e.g. Carbon Footprint, Corporate Sustainability Reporting Directive, Taxonomy). If yes, how do you think that this could be realized?

- Do you think that the Carbon footprint calculation could be associated to the energy audit to promote a "Organisation Carbon reduction" competition among obliged and non-obliged companies?

- Would it better to promote a "Organisation Carbon footprint" competition on the basis of sectoral benchmarks?

- Should the Carbon footprint be mandatory for companies obliged to carry out the energy audit?

- According to a strategic political perspective, do you think that the Energy audit should be overcome by the concept of "Audit of the use of resources"?

- Do you think that the risks associated with energy efficiency interventions should be deeply evaluated?

Box 1 – Guiding questions for the workshops

2. Implementation of T4.3 Working sessions at national level

2.1. Italy

Three 2-hour online workshops were held in Italy, on 30/09/2022, 17/10/2022 and 27/10/2022.

For the first one, 39 key actors were invited and 13 attended the workshop. This first meeting has been organized to illustrate the tools developed in the project and their methods of operation and it was reserved to the key actors.

The importance of working on the basis of indicators and therefore with a reference benchmark was underlined (monitoring not only energy consumption but also the operational variable). Companies are often convinced that they are well managing their businesses and therefore find it hard to accept that they can do better. Benchmarking can be a solution. The alignment between energy investments and investments in IoT was also highlighted. Training and the availability of good practices are key elements to support the process of improving energy performance. According to the comments collected in this first workshop, it can be concluded that the Multiple Benefits approach is well aligned with the needs of working with indicators and reference benchmarks. The evaluation of multiple benefits is well suited to the alignment between energy investments and investments in IoT.

Invitation for the second workshop were sent to 39 key actors, and 2045 energy managers and FIRE members. This meeting, which gathered 76 participants, including ENEA, aimed to bring out the best levers to ensure greater participation of companies in energy efficiency measures within the framework of national schemes. In this case, it was deemed appropriate, also given the presence of ENEA, to open participation in the webinar to FIRE members and energy managers. From DEESME survey on national energy efficiency schemes, presented by FIRE, it emerged that it is a priority to work on solutions to improve information, access to economic and financial support tools and control systems to ensure compliance with the obligation. Access to information and grants are particularly important for SMEs. Since ENEA, and probably the authorities of other countries, are focusing their attention on the realization of the investments, the MB approach can certainly contribute to increase the number of improvement interventions.

The third workshop gathered 11 participants from 38 invited key actors. It consisted in a guided discussion with the participants based on a set of pre-defined questions prepared by FIRE and SOGESCA to guide the discussion and gain insights useful to formulate the recommendations for the National Schemes. Useful responses from 11 stakeholders were collected and will be processed, evaluated and commented on for the purpose of drafting recommendations for policy makers. Overall the workshop developed positively with good participation despite the commitments of the heads of the organizations involved. It is important to have acquired useful material for the purpose of preparing the recommendations. Perhaps greater interest was expected in the possibility of providing input to be forwarded to the competent authorities, so much so that the third work session was the one with the lowest level of participation.

2.2. Germany

In Germany, a first in-person meeting was organised in Berlin on 05/10/2022, followed by two online working sessions on 31/01/2023 and 07/02/2023. The meetings took place with Maximilian Hengstenberg, head of CO2Online.de, the leading German platform for energy efficiency.

During the first meeting, the DEESME concept was presented. It has not been used in Germany so far (beyond research projects), so it has to be adapted to German specifics and perhaps simplified based on recommendations from CO2online.

On the second meeting, more in-depth information about the DEESME approach was shared, with recommendations for simplifications from the key actor, in order to get more SME onboard.

In the third meeting, the guiding questions were discussed, noting the variety of information and funding sources, which makes it difficult for SMEs to find their way. Yet, a centralized information hub, while useful, would certainly be too difficult to manage. Greater awareness of non-energy benefits would certainly serve many SMEs, though the best ways to foster such an awareness are not straightforward, especially in challenging times with many competing priorities.

2.3. Poland

In Poland, the first workshop took place on November 9, 2022 in Łódź with 7 entities participating, mainly service providers from various sectors. Discussions focused on ways to save energy and heat, both in terms of the technical and financial solutions used. Attention was drawn to the need to involve employees in energy saving activities, including the possibilities offered by the MBA, which most participants were unaware of before the meeting but were interested in.

The second workshop took place online on November 30, 2022 with 38 people from companies, local authorities and business associations. The topics discussed during the webinar were legal aspects related to energy efficiency, ISO standards, ways to save energy, tools that can help entrepreneurs, including the DEESME tool and available financing mechanisms. During the meeting, participants were familiarized with the biggest challenges resulting from the energy transformation and presented the standards and benefits of a well-implemented audit and a functioning energy management system in the company. The meeting allowed the participants to learn more about legal aspects, including the EED and national legislation. An important aspect was also the presentation of the outline of the DEESME tool and its operation, which allowed to better illustrate the DEESME approach and its multiple benefits.

The third and last workshop was held online on March 23, 2023 with representants from 5 key actors: Department of Consulting and Information Enterprise Europe Network Górnośląski Fund S.A.; Toruń Regional Development Agency S.A.; Association "Promotion of Entrepreneurship" in Opole; University of Information Technology and Management in Rzeszów; Chamber of Commerce and Industry in Krakow.

The meeting discussed in details the challenges faced not only by companies but also by other stakeholders, as well as the barriers that prevent SMEs from carrying out audits and implementing their results. The following questions were raised:
1. In your opinion, are companies aware of the benefits of conducting an energy audit and implementing its results?
2. What incentives could increase the participation of companies in energy efficiency measures?
3. Could promoting the non-energy benefits of audits increase the number of SMEs auditing? What benefits are worth paying attention to?
4. Would the development of information materials for companies increase the number of audits carried out? Would you be willing to share such materials with entrepreneurs?
5. Would the obligation for auditors to indicate non-energy benefits of audits would allow enterprises to better understand the benefits of implementing energy efficiency measures?

In response to these questions, participants pointed out the need to emphasize the financial benefits for entrepreneurs of any suggested activity, noting that it would be difficult to convince businesses to carry out audits and implement their results if there is no obligation to do so. Audits are often perceived as time-consuming and expensive, for few measurable benefits to the company. Participants who work with entrepreneurs on a daily basis stated that communication with them is difficult and the means of communication and information should be carefully selected. According to them, cooperation with SMEs requires long-term relationship building, as new activities or interlocutors are usually met with distrust. Therefore, to encourage more entrepreneurs to take actions for energy efficiency, it would be necessary to present them with examples of success stories and prepare an official list of certified auditors whom they could trust. Entrepreneurs are also often concerned about the security of their data and hidden costs and administrative activities. Therefore, all incentives (including financial ones) should contain a clear description of the required activities and be accounted for in a simple way.
Participants emphasized the importance of indicating the non-energy benefits of audits, but considered it only an addition to the audit, emphasizing that what counts for the entrepreneur is mainly the financial benefit and, possibly, the impact of the implementation of the audit results on the effectiveness of production or sales.

2.4. Bulgaria

In Bulgaria, a slightly different set-up was adopted for consultations with the Key Actors. These consisted of a large national event held on 29 November 2022, with over 100 participants from state institutions, Ministry of Energy, Ministry of the Environment and Water, Ministry of Labor and Social Policy, industry organizations, energy agencies and centers, academic circles, municipalities, experts and companies from all sectors of the economy. In the parallel session where the specific DEESME workshop took place, there were 24 attendees and 18 online participants.
In addition to this large event, a follow-up survey was sent by email in December 2022/January 2023 to key actors with the guiding questions presented in Box 1.

Main takeaways from the consultations are that there are up-to-date, comprehensive information available online, if one knows what they are looking for. Information for non-technical end-users

(businesses, households) could be improved. Even though companies are aware of the benefits of EE, their interest in energy audits is limited, as are incentives to comply with the obligation. More information on non-energy benefits, as well as a centralized hub would therefore be seen as a good thing to facilitate access to information, grants and incentives.

Conclusion

While the format initially foreseen (three workshops) was adapted to fit the structure and interest of Key Actors in each country, the consultations were carried out as planned in each of the four implementation countries and yielded some interesting insights for the improvement of the national schemes supporting the implementation of the Energy Efficiency Directive.
The annexes present more details about the practical organization of the consultations, and the recommendations stemming from this dialogue are further analysed in D4.5.

Annexes

ITALY

1st Workshop, 30/09/2022: Invitation & Agenda


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National schemes for energy efficiency in SMEs

I benefici multipli dell'efficienza energetica

Il progetto DEESME e il punto di vista delle imprese

30 settembre 09:30-11:30
17 ottobre 09:30-11:30
27 ottobre 09:30-11:30

Caro << Test Nome >> << Test Cognome >>,

FIRE e SOGESCA, entrambi partner italiani del Progetto Europeo DEESME, la invitano a partecipare al **ciclo di 3 webinar gratuiti** organizzato nell'ambito del

Screenshot from online meeting

PowerPoint presentation

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I benefici multipli dell'efficienza energetica.

Ciclo di tre workshop rivolti alle parti interessate ai fini della formulazione di raccomandazioni per i policy makers e la autorità nazionali

Introduzione al progetto DEESME

Aspetti generali

- Fornire indicazioni per il miglioramento degli schemi nazionali art. 8 EED
- Stimolare l'interesse per l'efficienza energetica tra le imprese
- Attivare interventi per l'efficienza energetica
- Benefici multipli (continuità con progetto Mbenefits - FIRE)
- Fine progetto 30/8/23 (3 anni)

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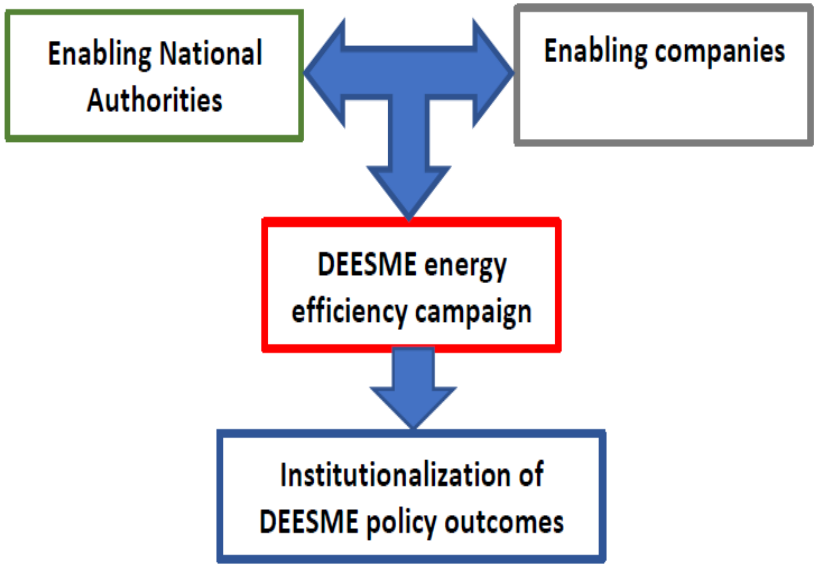
Schema del progetto

- Analisi degli schemi nazionali e coinvolgimento delle autorità nazionali competenti
- Sviluppo on-site di metodologie di lavoro sull'audit e sul sistema di gestione dell'energia (in Italia 13 DE e 6 SGE);
- Campagna promozionale dell'approccio DEESME (business model, Benefici multipli); suggerimenti per i policy makers e le autorità nazionali.
- Coinvolgimento delle autorità azionali e istituzionalizzazione delle proposte del progetto DEESME.
- Diffusione, comunicazione e sfruttamento dei risultati



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Campagna promozionale dell'efficienza energetica e dell'approccio "Benefici multipli"

- Almeno 2 meetings con i key-actors.
- Informazione verso almeno 500 imprese per paese.
- Redazione di articoli o comunicati per newsletter, riviste, siti web . . . . .
- Meetings (almeno 2) con le imprese (almeno 125 per paese) - partecipazione a eventi pianificati, riunioni di settore – rilevamento dell'interesse.
- 3 workshops per key actors finalizzati alla preparazione di racommandazioni per i policy makers per il miglioramento dell'attuazione della EED

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Concetti e metodologie sviluppati dal Progetto DEESME

Approccio DEESME

- Ogni investimento energetico porta con sé altri benefici che tipicamente non vengono valutati e valorizzati
- Dall'audit energetico all'audit dell'efficienza del processo produttivo
- Cappello strategico: analisi del modello di business
- Analisi e gestione di aspetti non energetici
- Individuazione e valorizzazione di benefici non energetici

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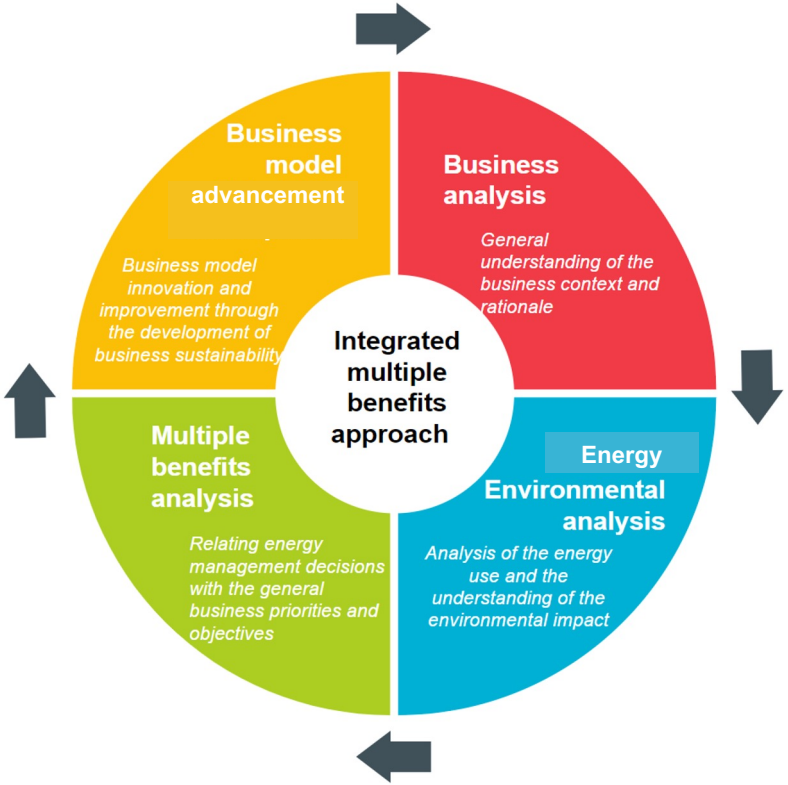
Benefici multipli: esempi

DOMAIN	BENEFIT TYPE	INDICATOR
Value Proposition	1. Improved product/ service efficiency	Energy cost per unit of product/service
	2. Introduction of new products/ services	Nº of new 'green' products/services
	3. Development or innovations	Total R&D expenses for 'energy efficiency' initiatives
Activities	4. Increased productivity	Value of output items/ Value of input items
	5. Increased utilization	Capacity utilization
	6. Improved maintenance	Maintenance Unit Cost
	7. Reduced carbon footprint	Total GHG emissions per year
	8. Improved quality	Right First Time
	9. Improved Safety	Incidence Rate
Resources	10. reduced energy consumption	Total energy consumption per year
	11. Improved raw materials consumption	Quantity of raw materials purchased
	12. Increased recycling	Percentage of total waste that is recycled
	13. Reduced waste	Waste reduction rate
	14. Increased employee satisfaction	Employee Satisfaction Index
Customers	15. Acquisition of 'green' customers	'Green' customers share
	16. Acquisition of new customers	New customers share
	17. Increased customer satisfaction	Satisfied customers share
	18. Increased customer loyalty	Loyal customers rate
	19. Improved supply chain relationships	Total nº of suppliers with ISO certification for energy or environmental management
		Total nº of stakeholders involved in decision

DEESME

Miglioramento del modello di business



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Business Model Canvas

- **Funzione del BMC:** fornire una comprensione complessiva della logica del business con riferimento alle attività ai partner, ai clienti, alla proposta del valore aggiunto, alle risorsee alla struttura dei costi.
- **I Benefici:** vanno poi individuati, caratterizzati in relazione ai diversi riquadri.

Key Partners

Who are our Key Partners?
Who are our key suppliers?
Which Key Resources are we acquiring from partners?
Which Key Activities do partners perform?

Defines the network of suppliers and partners necessary for the functioning of the corporate business model.

Key Activities

What Key Activities do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue streams?

Defines the strategic activities that must be carried out to create and support value propositions, reach customers, maintain relationships with them and generate revenues (e.g. purchase of raw materials, production...)

Key Resources

What Key Resources do our Value Propositions require? Physical, intellectual, human, financial?
Our Distribution Channels? Customer Relationships?
Revenue Streams?

Defines the strategic assets that a company must have in order to create and support its business model.

Value Propositions

What value do we deliver to the customer?
Which one of our customer's problems are we helping to solve?
What bundles of products and services are we offering to each Customer Segment?
Which customer needs are we satisfying?

Defines the package of products and services that represents a value (benefits that the customer has from the use of the product or service provided by the company) for a specific customer segment.

Customer Relationships

What type of relationship does each of our Customer Segments expect us to establish and maintain with them?
Which ones have we established?
How are they integrated with the rest of our business model?
How costly are they?

Defines the type of relationship that the company establishes with the different customer segments.

Channels

Through which Channels do our Customer Segments want to be reached?
How are we reaching them now?
How are our Channels integrated?
Which ones work best?
Which ones are most cost-efficient?
How are we integrating them with customer routines?

Defines how the company reaches a certain customer segment to present and provide it with its value proposition.

Customer Segments

For whom are we creating value?
Who are our most important customers?

Defines the community of customers or businesses that the company is aiming to sell its product or services to.

Cost Structure

What are the most important costs inherent in our business model?
Which Key Resources are most expensive?
Which Key Activities are most expensive?

Defines the costs that the company will have to incur to make its business model operational.

Revenue Streams

For what value are our customers really willing to pay?
For what do they currently pay?
How are they currently paying?
How would they prefer to pay?
How much does each Revenue Stream contribute to overall revenues?

Defines the revenue streams thart the company obtains from the sale of products/services to a specific Customer Segment. How the company acquires value from the prodice the customer is willing to pay.

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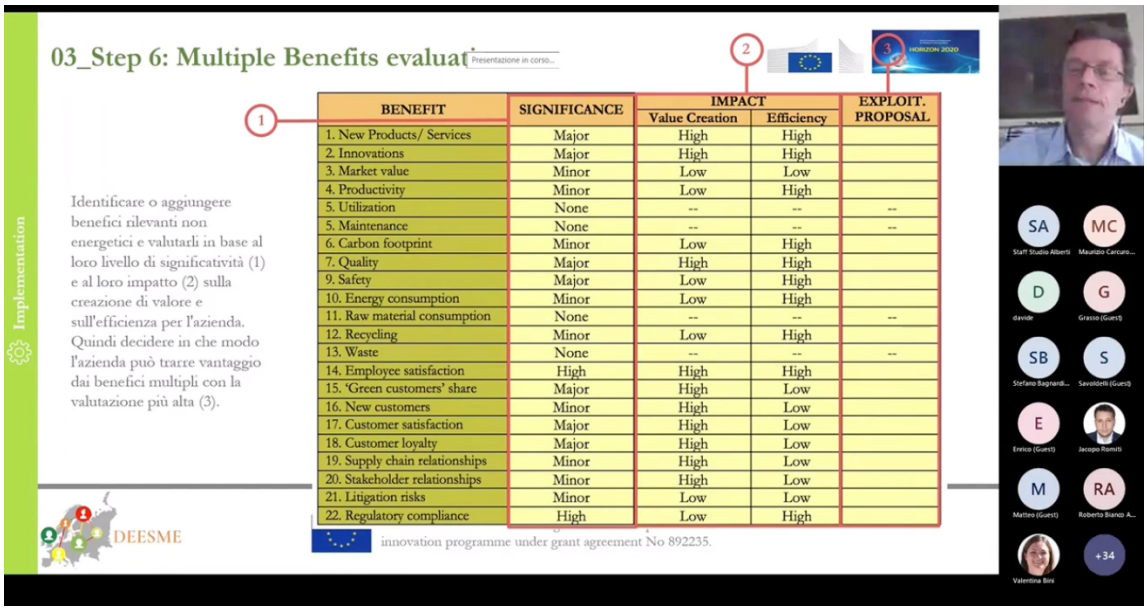
2nd Workshop, 17/10/2022: LinkedIn event promotion

Screenshot from online meeting



BENEFIT	SIGNIFICANCE	IMPACT		EXPLOIT. PROPOSAL
		Value Creation	Efficiency	
1. New Products/ Services	Major	High	High	
2. Innovations	Major	High	High	
3. Market value	Minor	Low	Low	
4. Productivity	Minor	Low	High	
5. Utilization	None	--	--	--
5. Maintenance	None	--	--	--
6. Carbon footprint	Minor	Low	High	
7. Quality	Major	High	High	
9. Safety	Major	Low	High	
10. Energy consumption	Minor	Low	High	
11. Raw material consumption	None	--	--	--
12. Recycling	Minor	Low	High	
13. Waste	None	--	--	--
14. Employee satisfaction	High	High	High	
15. 'Green customers' share	Major	High	Low	
16. New customers	Minor	High	Low	
17. Customer satisfaction	Major	High	Low	
18. Customer loyalty	Major	High	Low	
19. Supply chain relationships	Minor	High	Low	
20. Stakeholder relationships	Minor	High	Low	
21. Litigation risks	Minor	Low	Low	
22. Regulatory compliance	High	Low	High	

PowerPoint Presentation

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I benefici multipli dell'efficienza energetica.

Ciclo di tre workshop rivolti alle parti interessate ai fini della formulazione di raccomandazioni per i policy makers e la autorità nazionali

II workshop 17/10/22

Diagnosi e sistemi di Gestione dell'energia per le PMI secondo l'approccio dei benefici multipli

Approccio DEESME

- Ogni investimento energetico porta con sé altri benefici che tipicamente non vengono valutati e valorizzati
- Serve conoscere e valutare anche aspetti non energetici
- Dall'audit energetico all'audit dell'efficienza del processo produttivo
- Cappello strategico: analisi del modello di business
- Analisi e gestione di aspetti non energetici
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Benefici multipli: esempi

DOMAIN	BENEFIT TYPE	INDICATOR
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	19. Improved supply chain relationships	Total nº of suppliers with ISO certification for energy or environmental management
	[illegible]	Total nº of stakeholders involved in decision

DEESME

Approccio DEESME

L'approccio BM permette di elevare di rango l'efficienza energetica dal momento che esso coinvolge più soggetti e figure apicali (es. aspetti ambientali, sicurezza sul lavoro, efficienza produttiva, marketing e commerciale, risorse umane, alta direzione, ecc.).

Si raccomanda di basare il processo su una precisa conoscenza dell'azienda ed in particolare del suo «**modello di business**»

«Come un'organizzazione crea, fornisce e acquisisce valore»

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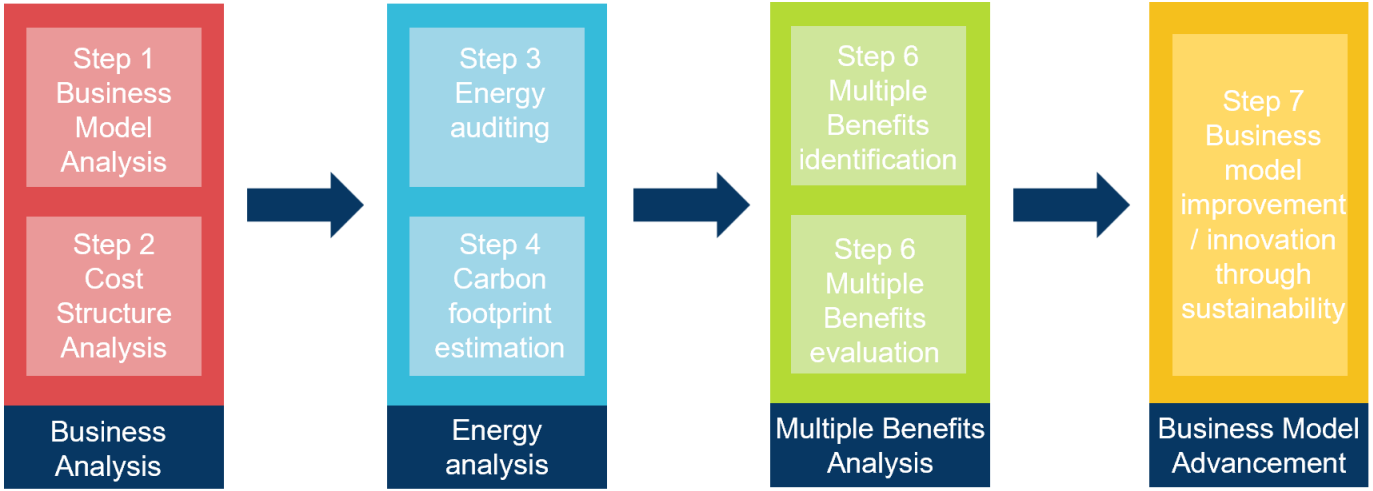
L'approccio Multi-Beneficio: metodologia



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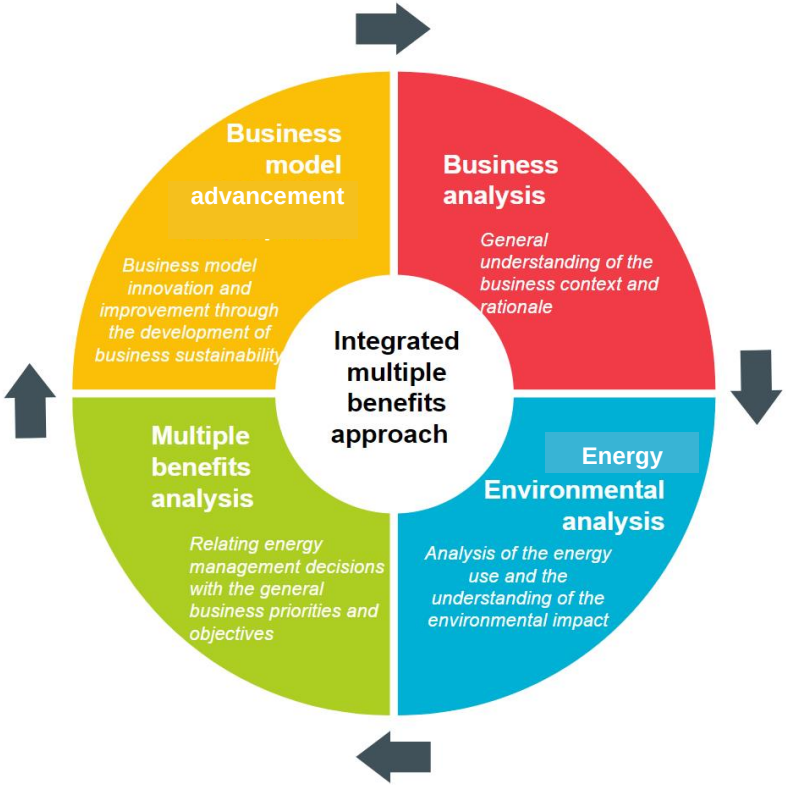
Miglioramento del modello di business



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02_Step 1: Business Model Analysis

What is it?

La Business model analysis di DEESME mira a fornire una migliore comprensione della logica complessiva dell'azienda, delle priorità e degli obiettivi strategici e del potenziale contributo delle decisioni di efficienza energetica.

In questa fase il consulente energetico, insieme ai rappresentanti dell'azienda, svilupperà una comprensione comune dei requisiti aziendali e del modo in cui le decisioni di efficienza energetica possono contribuire a supportare le priorità strategiche e gli obiettivi di crescita dell'azienda.

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02_Step 1: Business Model Analysis

Objective

- **Obiettivo della BMA:** comprendere il contesto nel quale si sviluppa il business con riferimento alla produzione del valore, alle esigenze del cliente, alle procedure aziendali, alle partnerships/relazioni e alla struttura dei costi.

- **Output:** delineazione delle principali caratteristiche del business aziendale e visione iniziale delle opportunità e delle barriere relative agli interventi per l'efficienza energetica che saranno poi identificate e analizzate in fase di diagnosi.

- **Metodo:** Il metodo utilizzato sarà il Business Model Canvas, che consiste in un documento di una pagina con 9 blocchi che raccolgono in modo strutturato gli elementi fondamentali di un'impresa e aiutano a personalizzare la diagnosi energetica e i progetti di Efficienza Energetica sulle esigenze delle aziende.

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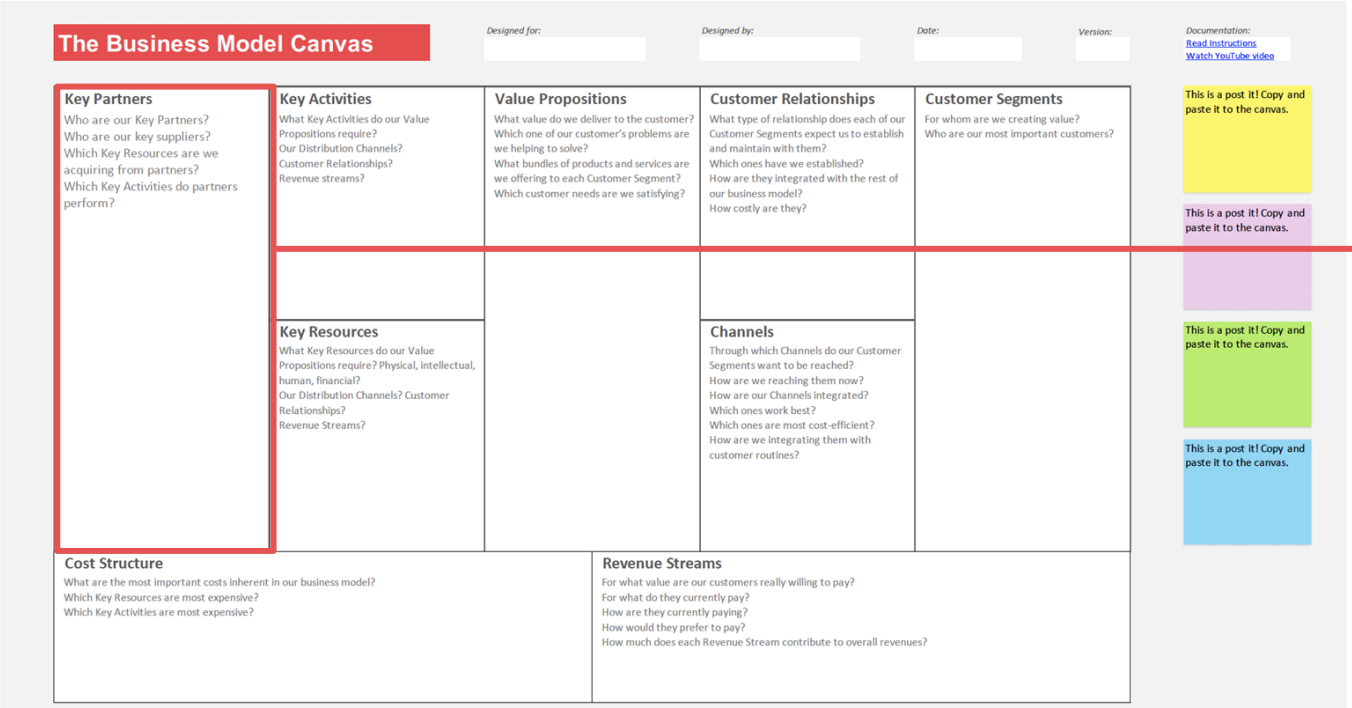
02_Step 1: Business Model Analysis



Key partners: definisce la rete di fornitori e partner necessari al funzionamento del modello di business aziendale.

Quali partners e fornitori supportano & influenzano il tuo modello?

Implementation

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02_Step 2: Cost Structure Analysis

What is it?

La **cost structure analysis** identifica i centri di costo, analizza e rivede i comportamenti di costo e raggruppa tutti i tipi di costo necessari per completare il processo di produzione. E' fondamentale per il miglioramento dell'efficienza del business e aiuta ad identificare e prioritizzare opportunità per migliorare l'efficienza delle risorse che possono contribuire all'obiettivo dell'azienda. E' un importante step nell'analisi del modello di business realizzato dal consulente energetico e dall'azienda. Per ogni centro di costo dovrebbe essere possibile:

- Identificazione dal punto di vista geografico e/o funzionale.
- Misura del consumo di energia (direttamento o indirettamente).
- Identificazione di uno (o più) input e uno (o più) output.
- Calcolo di uno (o più) indicatori energetici.

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02_Step 2: Cost Structure Analysis

Processo A (ripetuto per ogni processo principale)*	Process unit 1 ; Process unit 2 ; etc
Utenze (servizi ausiliari)	Produzione del freddo (refrigeratori, dry-cooler, ecc) ; caldaie; compressori d'aria; recupero di calore; centrali elettriche; impianti di cogenerazione; energie rinnovabili (fotovoltaico, impianti solari, ecc); ventilatori; pompe; È possibile aggiungere gestione del prodotto, elementi aggiuntivi.
General services	Illuminazione; condizionamento; ventilazione; IT, …
Vehicles (intended for personnel)	Veicoli

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02_Step 3: Energy auditing

What is it?

Secondo la EN 16247, un audit energetico è un'ispezione e un'analisi sistematiche dell'uso e del consumo di energia di un sito, edificio, sistema o organizzazione con l'obiettivo di identificare i flussi energetici e il potenziale di miglioramento dell'efficienza energetica e di rendicontarli.

Gli audit energetici portano le aziende a identificare e attuare misure di risparmio energetico ed efficienza adattate alle esigenze dell'organizzazione, rendendo al contempo l'uso dell'energia più conveniente e rispettoso dell'ambiente.

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02_Step 3: Energy auditing

→ Processo di audit energetico:

In base allo standard Europeo EN 16247-1 / Energy Audits - Parte 1: Requisiti generali

1. Contatto introduttivo
2. Meeting iniziale
3. Raccolta dati
4. Lavoro in campo
5. Analisi dati e investimenti
6. Report
7. Meeting finale

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02_Step 4: Carbon footprint

What is it?

L'**analisi dell'impronta di carbonio** valuta le emissioni di gas serra causate dalle operazioni dell'azienda. Include il mix di fonti energetiche utilizzate nella produzione, nella fornitura e nell'utilizzo di un prodotto/servizio, nonché le emissioni di gas serra non legate all'energia. L'analisi aiuta le aziende a stimare l'impronta di carbonio delle loro principali operazioni/prodotti e fornisce linee guida su come migliorarla.

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02_Step 4: Carbon footprint

Objective

- **Obiettivo della stime dell'impronta di carbonio:** identificare i risparmi sui costi lungo la catena di approvvigionamento nonché le opportunità per ridurre l'impatto ambientale attraverso la riduzione dell'uso di materiali, acqua, rifiuti ed energia.
- **Output:**
  - Quantificazione delle emissioni di gas serra dell'organizzazione
  - Quantificazione delle emissioni di gas serra di fornitori e clienti (se l'ambito e è applicato)
  - Identificazione degli impatti per specifici prodotti/servizi, in termini di tCO2eq
  - Aiutare aziende a ridurre il loro impatto, quantificare lo sforzo per ridurlo
  - Migliorare la reputazione dell'azienda
  - Molte grandi aziende ora iniziano a chiedere un'impronta di carbonio per inserire un'azienda nell'elenco dei fornitori

Note: *Gli standard fondamentali sull'analisi dell'impronta di carbonio sono l'ISO 14044 (LCA), ISO/TS 14067, PAS 2050, e il GHG Protocol. Il* ***GHG Protocol*** *è uno dei protocolli internazionali più comuni utilizzati dai leader aziendali e dai governi per comprendere, quantificare e controllare le emissioni di gas serra.*

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02_Step 4: Carbon footprint

1. LA CARBON FOOTPRINT PUÒ INTERESSARE I SEGUENTI TRE AMBITI (SCOPE)

AMBITO 1:
EMISSIONI DI GAS SERRA DIRETTE
emissioni da fonti gestite dal progetto/processo. Esempi: combustione di combustibili fossili, processi industriali ed emissioni fuggitive, come refrigeranti o perdite di metano.

AMBITO 2:
EMISSIONI DI GAS SERRA INDIRETTE
emissioni legate ai consumi energetici (elettricità, riscaldamento, raffrescamento e vapore); migliorando il consumo di energia, l'azienda riduce il proprio apporto di gas serra.

AMBITO 3: OTHER GHG EMISSIONS
Emissioni a monte/a valle di un impianto dedicato al 100% all'attività progettuale che altrimenti non esisterebbe e non esisteva prima dell'inizio del progetto.
Emissioni indirette di GHG da veicoli o flotte che utilizzano infrastrutture di trasporto, compresi gli effetti del trasferimento modale.
Emissioni indirette di GHG associate alla produzione di materie prime.
Emissioni indirette di GHG associate all'utilizzo e allo smaltimento del prodotto/servizio a fine vita.
Emissioni indirette di GHG per la produzione, il trattamento e il trasporto di progetti di biocarburanti e bioenergie (se applicabile per determinare l'idoneità alla mitigazione climatica).

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02_Step 5: Multiple Benefits identification

What is it?

L'identificazione dei benefici multipli consiste nell'individuare, all'interno di un insieme di benefici definito da DEESME (ai quali si possono aggiungere ulteriori benefici), quelli rilevanti per un'impresa.

Il revisore/consulente energetico, insieme al team dirigenziale dell'azienda, deciderà quali tipologie di benefici multipli e quali benefici aggiuntivi sono utili per soddisfare i bisogni e raggiungere gli obiettivi dell'azienda.

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02_Step 5: Multiple Benefits identification

Implementation

Il consulente energetico e i dirigenti dell'azienda decideranno quindi:

- I benefici multipli rilevanti per l'azienda.
- Gli indicatori che utilizzeranno (quelli suggeriti a fianco o qualsiasi altro indicatore).
- Ulteriori benefici multipli e/o indicatori che ritengono necessari.

DOMAIN	BENEFIT TYPE	INDICATOR
Value Proposition	1. Improved product/ service efficiency	Energy cost per unit of product/ service
	2. Introduction of new products/ services	N° of new 'green' products/ services
	3. Development or innovations	Total R&D expenses for 'energy efficiency' initiatives
Activities	4. Increased productivity	Value of output items/ Value of input items
	5. Increased utilization	Capacity utilization
	6. Improved maintenance	Maintenance Unit Cost
	7. Reduced carbon footprint	Total GHG emissions per year
	8. Improved quality	Right First Time
	9. Improved Safety	Incidence Rate
Resources	10. reduced energy consumption	Total energy consumption per year
	11. Improved raw materials consumption	Quantity of raw materials purchased
	12. Increased recycling	Percentage of total waste that is recycled
	13. Reduced waste	Waste reduction rate
	14. Increased employee satisfaction	Employee Satisfaction Index
Customers	15. Acquisition of 'green' customers	'Green' customers share
	16. Acquisition of new customers	New customers share
	17. Increased customer satisfaction	Satisfied customers share
	18. Increased customer loyalty	Loyal customers rate
Partners	19. Improved supply chain relationships	Total n° of suppliers with ISO certification for energy or environmental management
	20. Improved stakeholder relationships	Total n° of stakeholders involved in decision making
	21. Reduced litigation risks	Total amount of expenses and fines related to environmental law violations
	22. Increased regulatory compliance	N° of EU and national energy policies adopted

03_Step 6: Multiple Benefits evaluation

What is it?

La **valutazione dei benefici multipli** mira a valutare la significatività e il potenziale impatto dei benefici multipli individuati sul funzionamento e sul modello di business delle società al fine di decidere come possono trarre vantaggio da questi benefici multipli.

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03_Step 6: Multiple Benefits evaluation

Implementation

Identificare o aggiungere benefici rilevanti non energetici e valutarli in base al loro livello di significatività (1) e al loro impatto (2) sulla creazione di valore e sull'efficienza per l'azienda. Quindi decidere in che modo l'azienda può trarre vantaggio dai benefici multipli con la valutazione più alta (3).

BENEFIT	SIGNIFICANCE	IMPACT		EXPLOIT. PROPOSAL
		Value Creation	Efficiency	
1. New Products/ Services	Major	High	High	
2. Innovations	Major	High	High	
3. Market value	Minor	Low	Low	
4. Productivity	Minor	Low	High	
5. Utilization	None	--	--	--
5. Maintenance	None	--	--	--
6. Carbon footprint	Minor	Low	High	
7. Quality	Major	High	High	
9. Safety	Major	Low	High	
10. Energy consumption	Minor	Low	High	
11. Raw material consumption	None	--	--	--
12. Recycling	Minor	Low	High	
13. Waste	None	--	--	--
14. Employee satisfaction	High	High	High	
15. 'Green customers' share	Major	High	Low	
16. New customers	Minor	High	Low	
17. Customer satisfaction	Major	High	Low	
18. Customer loyalty	Major	High	Low	
19. Supply chain relationships	Minor	High	Low	
20. Stakeholder relationships	Minor	High	Low	
21. Litigation risks	Minor	Low	Low	
22. Regulatory compliance	High	Low	High	

DEESME

innovation programme under grant agreement No 892235.

01_Step 7: Business Model Advancement

What is it?

Il **Business Model Advancement** ricerca opportunità di innovazione e miglioramento del modello di business attraverso lo sviluppo della sostenibilità aziendale.

Si svolge dopo la valutazione dei benefici aziendali non energetici che possono integrare le misure di efficienza energetica e conclude l'approccio proposto dal progetto DEESME.

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Business Model Canvas

KEY PARTNERS

Quali sono i nostri partner e fornitori chiave?

Cosa otteniamo e diamo loro?

Quali risorse ci forniscono? Da dove?

Selezionare partner con certificazioni di sostenibilità e bilanci sociali convincenti.

Selezionare partner attenti alla sostenibilità.

Avvicinare la catena di fornitura.

Qualificarsi come sostenibili con partner finanziari (DNF, tassonomia)

KEY ACTIVITIES

Quali attività fondamentali sono necessarie (manifattura, software, distribuzione, manutenzione, etc.)?

Monitoraggio

Resource efficiency.

Comunicare la sostenibilità (DNF, tassonomia)

KEY RESOURCES

Quali risorse chiave sono necessarie (finanziarie, fisiche, umane, brevetti, etc.)?

Servizi energetici e ambientali qualificati.

Individuare risorse più sostenibili.

VALUE PROPOSITION

Quali problemi/desideri dei nostri clienti stiamo risolvendo?

Quali sono le esigenze dei nostri clienti che stiamo soddisfacendo?

Quali sono le caratteristiche chiave dei nostri prodotti e servizi che rispondono ai problemi e alle esigenze dei nostri clienti?

Come possiamo rendere sostenibili i nostri prodotti/servizi?

Come possiamo rendere la sostenibilità un valore per i clienti?

CUSTOMER RELATIONSHIPS

Come possiamo raggiungere, tenere e far crescere i nostri clienti?

Come possiamo coltivare con i clienti i valori della sostenibilità?

CHANNELS

Come vogliono essere raggiunti i nostri clienti?

Utilizzo di canali di distribuzione e comunicazione a basso impatto.

CUSTOMER SEGMENTS

Quali sono i nostri clienti più importanti?

Quali sono i loro modelli primari?

Cosa vogliono che facciamo per loro?

Quali sono le esigenze dei clienti collegate all'efficienza delle risorse e alla sostenibilità?

Come possiamo adattarci in anticipo alle loro esigenze?

COST STRUCTURE

Quali sono i costi collegati al nostro business model? Sono costi fissi o variabili?

Qual è l'impatto dell'efficienza e della sostenibilità sulla riduzione dei costi e dei rischi?

REVENUE STREAMS

Come si generano i ricavi? Quali sono i flussi economici positivi collegati alla nostra attività? Quali sono le variabili che influenzano i ricavi e quali le strategie di prezzo?

Come tradurre l'efficienza e la sostenibilità in maggiori ricavi e margini? Come valorizzarle a livello patrimoniale?

Modello di Business Model Canvas elaborato da FIRE e SOGESCA e basato su Osterwalder (Business Model Generation).

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Extended Energy Management System – concetti di base

Secondo la ISO 50001:2018

Sistema di gestione
sistema di gestione insieme di elementi correlati o interagenti di un'organizzazione (3.1.1) per stabilire *politiche* (3.2.3) e *obiettivi* (3.4.13) e *processi* (3.3.6) per raggiungere tali obiettivi

Sistema di Gestione dell'Energia- SGE
Un Sistema di gestione (3.2.1) per stabilire una politica energetica (3.2.4), *obiettivi* (3.4.13), *target energetici* (3.4.15), *piani di azione e processi* (3.3.6) al fine di raggiungere gli obiettivi e i target energetici

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Extended Energy Management System – concetti di base

In base al progetto DEESME si definiscono

- ✓ **Benefici multipli**: i benefici legati a progetti/azioni di efficienza energetica ma di natura non strettamente energetica.
- ✓ **Aspetti multipli:** gli aspetti, interessati da progetti/azioni di efficienza energetica, che si riferiscono a ambiti operativi o gestionali diversi dall'efficienza energetica.
- ✓ **SGE esteso:** il sistema di gestione dell'energia che supporta l'approccio dei benefici multipli e il cui campo di applicazione include gli aspetti multipli.

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Extended Energy Management System – concetti di base

- ✓ L'approccio Multiple Benefits è un approccio integrato, non un sistema di gestione integrato.

- ✓ Un Sistema di Gestione Integrato può essere definito come un unico sistema atto a gestire molteplici aspetti di un'organizzazione in conformità a molteplici standard, come quelli per la gestione dell'energia, dell'ambiente, della salute e della sicurezza..

- ✓ Una volta che un'azienda ha deciso di implementare la norma ISO 50001, la gestione degli aspetti MB rimane facoltativa, selettiva e discrezionale; la certificazione non si applica alla gestione degli aspetti MB

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Extended Energy Management System

Le slide seguenti propongono alcune considerazioni su come i requisiti della ISO 50001 possono essere applicati a supporto dell'approccio dei Benefici Multipli

Requisito 2 - Comprendere l'organizzazione e il suo contesto

L'approccio MB richiede di ampliare l'ambito di indagine e di intervento e quindi di ampliare le finalità e gli esiti previsti del SGE. Di conseguenza, gli aspetti interni ed esterni rilevanti da considerare sono più numerosi di quelli normalmente analizzati per un tipico SGE. Per esempio:

- ✓ Cambi nelle politiche e nelle leggi ambientali (e.g.: Regolamento Tassonomia).
- ✓ Modifiche alle politiche e alle leggi in materia di salute e sicurezza sul lavoro.
- ✓ Richieste dei clienti (ad es. approccio al ciclo di vita, ecc.), poiché l'impatto del ciclo di vita può essere fortemente influenzato dall'efficienza energetica.
- ✓ Modifiche a leggi e regolamenti in materia di appalti pubblici e privati (es.: può essere richiesta la prova del rispetto contemporaneo di requisiti energetici e di altro tipo).
- ✓ Impatti sull'ambiente di lavoro, sull'atteggiamento dei dipendenti, sul senso di appartenenza e sull'impegno (maggiore produttività, ecc.), poiché gli investimenti in nuovi impianti o installazioni dovuti a obiettivi di efficienza energetica possono influenzare questi aspetti.

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Requisito 3 - Comprendere i bisogni e le aspettative delle parti interessate

Occuparsi di BM richiede il coinvolgimento di ulteriori parti interessate agli aspetti multipli considerati dall'azienda e non solo alla «performance energetica». Tra questi si possono citare:

- ✓ Autorità locali preposte all'ambiente o a uno qualsiasi degli aspetti multipli considerati
- ✓ Sindacati dei lavoratori (se presenti all'interno dell'azienda)
- ✓ Associazioni che si occupano di uno qualsiasi degli aspetti multipli
- ✓ Organismi di ricerca e sviluppo

È possibile identificare e soddisfare più bisogni e aspettative rispetto a un tipico SGE. L'organizzazione può estendere, all'interno del SGE, la gestione dei requisiti legali applicabili a diverse questioni affrontate.

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Requisito 5.1 – Leadership and commitment

Punto c) - Necessità di garantire l'integrazione del sistema di gestione nei processi aziendali: l'inclusione di più aspetti nel perimetro determina la crescita dell'importanza del sistema per il business e un più ampio coinvolgimento del management aziendale.

Punto d) - Il top management assicura che i programmi di miglioramento siano approvati e realizzati: gli investimenti generano benefici in termini di risparmio energetico insieme a benefici in materia di salute e sicurezza, ambiente, risorse umane, ecc. Un piano d'azione a sostegno di un investimento ha successo se condiviso tra tutti i manager coinvolti e quando tutti i benefici sono definiti e comunicati .

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Requisito 5.1 – Leadership and commitment

Punto i): considerando l'ambito esteso del SGE, il team di gestione dell'energia può essere più efficace includendo membri aggiuntivi responsabili degli aspetti multipli inclusi nell'ambito del SGE: H&S, responsabili della comunicazione, ecc.

Punto j): l'adozione dell'approccio MB richiede che le persone contribuiscano all'efficacia del SGE per tutti gli aspetti inclusi nell'ambito di applicazione. La formazione può favorire la consapevolezza e l'impegno. La formazione dovrebbe coprire una gamma più ampia di contenuti. Ciò determina la necessità di non separare le conoscenze tecniche all'interno dell'azienda .

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Requisito 5.1 – Leadership and commitment

Punto k): con l'approccio MB, il supporto ad altri ruoli dirigenziali acquisisce ancora maggiore importanza ed efficacia; l'azione dovrebbe coinvolgere al meglio un numero maggiore di soggetti e/o funzioni. Il sostegno dovrebbe pertanto essere rafforzato. Ad esempio, sembra utile che ruoli, responsabilità, poteri e autorità siano chiaramente definiti e comunicati. Questo non solo per la gestione dell'energia ma anche per altri aspetti e sia nella fase di definizione dell'organigramma che nell'attribuzione di ruoli, responsabilità e poteri specifici.

Punto l): considerando il perimetro esteso del SGE, insieme agli EnPI(s), possono essere definiti anche ulteriori indicatori di performance utili a monitorare e dimostrare il raggiungimento dei benefici attesi .

Bullet m): per garantire che i processi siano implementati, per identificare e affrontare i cambiamenti che incidono sul SGE e sulle prestazioni energetiche, dovrebbe essere assicurato che un adeguato "comitato di gestione" si occupi regolarmente dei requisiti del SGE e degli effetti sulla produzione, EH&S, organizzazione, ecc. .

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Esempio: Sostituzione del sistema di riscaldamento in un reparto di produzione meccanica

Dettagli, problemi e opportunità

Un'azienda produttrice di elettrodomestici provvede al riscaldamento in un reparto di lavorazione meccanica mediante l'utilizzo di ventilatori riscaldanti alimentati a gas naturale. Questo sistema riscalda l'intero volume d'aria nell'area.

L'intervento tecnico consiste nella sostituzione dei ventilatori con pannelli radianti ad infrarossi alimentati con i gasdotti preesistenti. Sono previsti risparmi energetici: saranno riscaldati piccoli volumi d'aria perché le persone e i luoghi di lavoro saranno riscaldati direttamente dalle radiazioni e nessuna energia termica andrà dispersa per il ricambio d'aria.

È stato coinvolto il responsabile H&S dell'azienda. Sono così stati evidenziati alcuni vantaggi potenziali rilevanti:

- ✓ miglioramento della qualità dell'ambiente interno,
- ✓ riduzione dei rischi durante la manutenzione
- ✓ miglioramento delle comunicazioni interne ed esterne.

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Esempio: Sostituzione del sistema di riscaldamento in un reparto di produzione meccanica

Benefici multipli

E' stata pianificata una campagna di monitoraggio delle polveri in ambiente interno perché si prevede che la sostituzione dei ventilatori permetterà di eliminare il sollevamento delle polveri.

Il responsabile H&S ritiene inoltre che il benessere nei luoghi di lavoro in termini di controllo e regolazione della temperatura e dell'umidità sarà migliorato. La temperatura e l'umidità dell'aria saranno quindi monitorate come parametri rilevanti per l'implementazione degli indicatori della qualità dell'ambiente di lavoro da abbinare agli indicatori energetici.

Inoltre, il reparto di manutenzione accederà più facilmente ai pannelli per effettuare i controlli e interventi di manutenzione.

La funzione Risorse umane è stata coinvolta al fine di inserire il progetto in un progetto di comunicazione interna generale e nella politica adottata per comunicare che l'azienda considera i dipendenti come la risorsa più importante e si rivolge a un ambiente di lavoro orientato alle persone e sicuro, investendo per questo.

Il risparmio energetico comporterà minori emissioni di CO2 equivalente: questo sarà comunicato pubblicamente.

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

ESEMPIO 2: Rinnovare il sistema di distribuzione del vapore in un'industria chimica

Dettagli, problemi e opportunità

Le tubazioni del vapore collegano sezioni del processo chimico, come distillazione, ossidazione, idrogenazione, ecc. Le trappole di condensa scaricano la condensa per garantire la corretta percentuale di umidità e di conseguenza la migliore efficienza del sistema di distribuzione del calore. È stato effettuato un controllo di tutte le trappole installate. Circa il 35% delle trappole risultava ostruito o perdere vapore in modo continuo. Le perdite economiche medie stimate nel 2018-2020 ammontavano a circa 100.000 €/anno. I tecnici hanno proposto due diversi interventi per pianificare ed effettuare controlli e manutenzioni dei sifoni di condensa:

- ✓ Ripristino delle singole trappole: basso costo ma scarsa durata.
- ✓ Sostituzione delle trappole o di tratti di tubazioni; alto costo di intervento; lunga vita.

I condotti del vapore non erano divisi in sezioni e connettevano diverse sezioni dell'impianto chimico; pertanto, in caso di sostituzione delle trappole, sarebbe stato necessario fermare i processi produttivi in gran parte dell'intero impianto. Per questo motivo i costi della soluzione b) erano molto elevati non solo per l'intervento stesso, ma anche per la mancata produzione.

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ESEMPIO 2: Rinnovare il sistema di distribuzione del vapore in un'industria chimica

Benefici multipli

Il management dell'azienda ha capito che potevano essere ottenuti ulteriori vantaggi pianificando un investimento ancora più grande, ovvero rinnovando completamente il design del sistema di distribuzione del vapore tramite valvole e by-pass, in modo da rendere possibile la sostituzione degli scaricatori senza interrompere i processi produttivi.

Il top management ha così ottenuto ulteriori benefici multipli, tra i quali:

- ✓ La possibilità di effettuare qualsiasi manutenzione o revamping di singoli impianti, reattori chimici o recipienti senza interrompere la produzione di un'intera sezione dell'impianto.
- ✓ Aumento degli standard di sicurezza sul lavoro grazie alla possibilità di isolare recipienti o reattori in caso di guasto; implementazione del "Responsible care".
- ✓ Minore preoccupazione per i maggiori rischi: riduzione dell'"effetto domino"; riduzione delle conseguenze dei "top events"; riduzione delle "aree di interesse"; non più popolazione coinvolta dagli effetti dei principali eventi.
- ✓ Migliorare i rapporti con le Pubbliche Amministrazioni e con il vicinato.

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Extended Energy Management System
Valore aggiunto dell'approccio dei Benefici Multipli

- Ottimizzazione delle risorse e massimizzazione dei benefici legati alle azioni di efficienza energetica: analisi allargata delle opzioni, approccio documentato per una comunicazione adeguata verso clienti business, committenti pubblici, consumatori, comunità, ecc.

- Avvicinamento alla conformità con le nuove politiche e atti dell'UE come:
  - ✓ Corporate Sustainability reporting (2014/95/EU Directive)
  - ✓ Taxonomy Regulation (852/2021)
  - ✓ Agenda 2030

- Preparazione alle nuove sfide dei mercati

- Miglioramento delle prestazioni della gestione complessiva e della gestione di aspetti specifici quali ambiente, salute e sicurezza sul lavoro, efficienza dei processi, comunicazione, marketing, approvvigionamento, ecc..

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Ulteriori informazioni

DEESME Project Website: https://www.deesme.eu

DEESME on Social Media:

- Twitter: https://twitter.com/DeesmeH2020
- LinkedIn: https://www.linkedin.com/company/deesme-h2020

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Partners

GRAZIE PER LA VOSTRA ATTENZIONE!

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3rd Workshop, 27/10/2022: Invitation & Agenda

DEESME

National schemes for energy efficiency in SMEs

I benefici multipli dell'efficienza energetica

Il progetto DEESME e il punto di vista delle imprese

27 ottobre 09:30-11:30

Caro << Test Nome >> << Test Cognome >>,

FIRE e SOGESCA, entrambi partner italiani del Progetto Europeo DEESME, la invitano a partecipare al **terzo webinar gratuito** organizzati nell'ambito del Progetto.

Lo scopo di questo terzo incontro è quello di discutere insieme a lei le migliori strategie di approccio ai Benefici Multipli dell'efficienza energetica e di raccogliere i punti di vista dei key actors per formulare le raccomandazioni per le autorità nazionali e i policy makers.

Per partecipare è sufficiente iscriversi qui

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Screenshot from online event

GERMANY

1st Working session, 05/10/2022: PowerPoint presentation

DEESME

National schemes for energy efficiency in SMEs

3 workshops cycle
‘Key actors recommendations for policy makers to improve national schemes’

Detlef Olschewski, Cleopa GmbH

5th October 2022

DEESME has received funding from the European Union’s Horizon 2020 Research and innovation programme under grant agreement No 892235.

3 workshops cycle

- **1st workshop: Introduction to the DEESME Project and presentation of the concepts and methodologies developed within the project.**
- 2nd workshop: Presentation of the DEESME Multiple Benefits approch and its application.
- 3rd workshop: Working sesion based on a set of questions to discuss and collect key actors' points of view. Recommendations for policy makers.

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

First workshop

Date and time: 5th October, 12 am.

Objective: explaining the participants the framework for collecting their points of view and sharing of results, concepts and methods of the DEESME project.

Programme:

1. Introduction to the DEESME project and energy efficiency aspects
2. Presentation of the concepts and methodologies developed
3. Discussion

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Meet the DEESME partners

DEESME

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Some highlights to start…

- Guiding SMEs and national authorities to manage the energy transition – Empower national schemes under Art. 8 EED.
- Remove market barriers and foster a more efficient use of energy
- Multiple Benefits approach (continuity of the Mbenefits projects - FIRE)
- Project end August 2023.

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

DEESME objectives

Enabling companies to manage the energy transition by taking profit of multiple benefits and energy management approaches.

Supporting the development and the implementation of EU policies on energy efficiency in the framework of article 8 of the EED beyond the project by providing national authorities with guidelines proposals and recommendations on how to strengthen the national schemes.

Enhancing the adoption of the DEESME approach by National Authorities beyond the project timeline through the implementation of institutionalization activities.

DEESME

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Barriers to energy efficiency

- Energy audits are perceived as regulatory obligations that are met often at the expense of the company and without any real business benefit for it.
- Low priority - there are other investment alternatives with higher yield.
- They do not fit the business/strategic objetives
- Low confidence in the actual saving potential
- Lack of integrated design and whole system thinking
- Difficulty of quantification of energy efficiency measures
- Lack of training, data and incentives.
- Easier to evaluate costs rather than other efficiency benefits.

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Benefits from energy efficiency measures

- Energy investment brings many other benefits (not only economic) that are not normally evaluated.
- Energy savings = GHG emissions reduction – Climate change mitigation
- There are not only technological investments, but also organizational, less expensive (e.g. ISO 50001).
- Companies' managers and staff closely involved in energy audits.
- Protection against sudden energy price trends.
- Analysis and management of non-energy aspects, integration with the business model and alignment with the business strategies.

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Target audience

National Authorities

- Address their policy needs
- Make them aware of available resources to empower their schemes under art. 8, using the multiple benefits approach

SMEs

- **Assist SMEs** to develop and test the DEESME solutions with information and training, energy audits and implementing energy management systems starting from international standards and adding the multiple benefits energy efficiency approach

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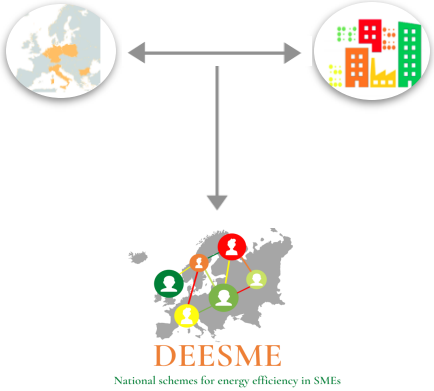
Innovative aspects



Challenges

- Involving **500** companies to be trained.
- **50 companies** undergoing an energy audit and **25** an EMS
- Engaging **10** national authorities out of which 5 will adopt policy solutions.
- **50 key actors** contributing to the exchange of practices
- **2500 companies** in a communication campaign

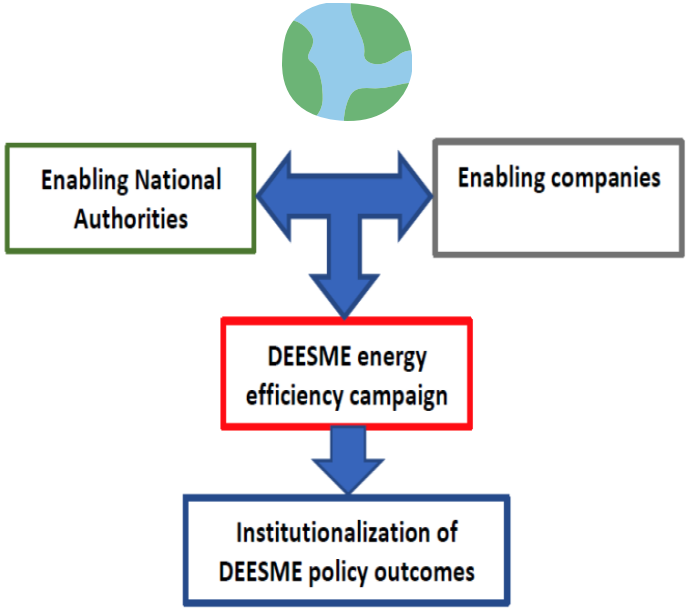
Strengths

- A **two-fold approach** targeting **national authorities and SMEs**
- Focus also on **EMS** based on **ISO 50001** → CLEAN ENERGY MINISTERIAL Advancing Clean Energy Together
- A **solid consortium** with an effective **working plan**

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Methodology

- Support NAs and companies through the energy transition and share the multiple benefits of energy efficiency;
- Guiding them through the energy efficiency campaign;
- Sharing knowledge, best practices and policies for effective energy audits and management systems.



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Thank you for your attention

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DEESME

National schemes for energy efficiency in SMEs

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

2nd Working session, 31/01/2023: PowerPoint presentation

DEESME

National schemes for energy efficiency in SMEs

3 workshops cycle
‘Key actors recommendations for policy makers to improve national schemes’

Detlef Olschewski, Cleopa GmbH

16th November 2022

DEESME has received funding from the European Union’s Horizon 2020 Research and innovation programme under grant agreement No 892235.

3 workshops cycle

- 1st workshop: Introduction to the DEESME Project and presentation of the concepts and methodologies developed within the project.
- **2nd workshop: Presentation of the DEESME Multiple Benefits approch and its application.**
- 3rd workshop: Working sesion based on a set of questions to discuss and collect key actors' points of view. Recommendations for policy makers.

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Second workshop

Date and time: 31st November 2022

Objective: Presentation of the DEESME Multiple Benefits Approach derived of energy audits and energy management systems

Programme:

1. Introduction to the DEESME Multiple Benefits Approach - How can energy efficiency benefit companies?
2. Multiple Benefits Approach methodology and Energy Management Systems
3. Discussion

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

What is the DEESME approach for Multiple Benefits?

- Spread the concept previously shaped in Mbenefits H2020 EU Project.
- Relate energy efficiency measures with non-energy and general business benefits.
- Increase awareness of the multiple benefits that derive from energy audits and Energy Management Systems.

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Actors

1. **Energy auditor:** person appointed by the company to perform an energy audit:
   - Understand the business strategies, objectives and decision-making culture.
   - Perform energy analysis for the company.
   - Aligh energy investments with the business goals.
   - Provide suggestions for advancement of the business model sustainability.

2. **Energy managers:** they have an important tole in the DEESME MB analysis and include:
   - A business strategy manager
   - An operations/production manager
   - A financial/accounting manager

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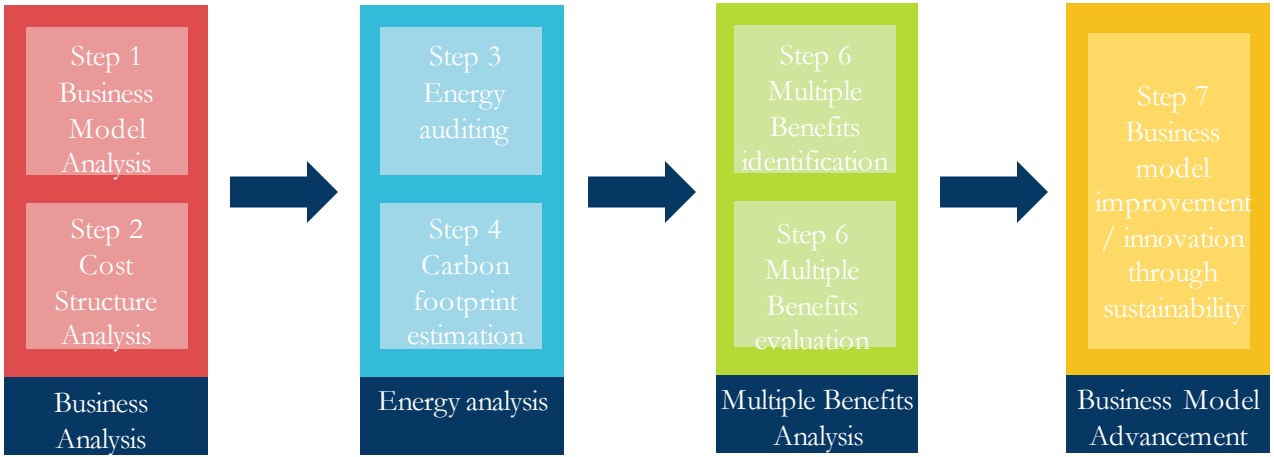
4 stages methodology



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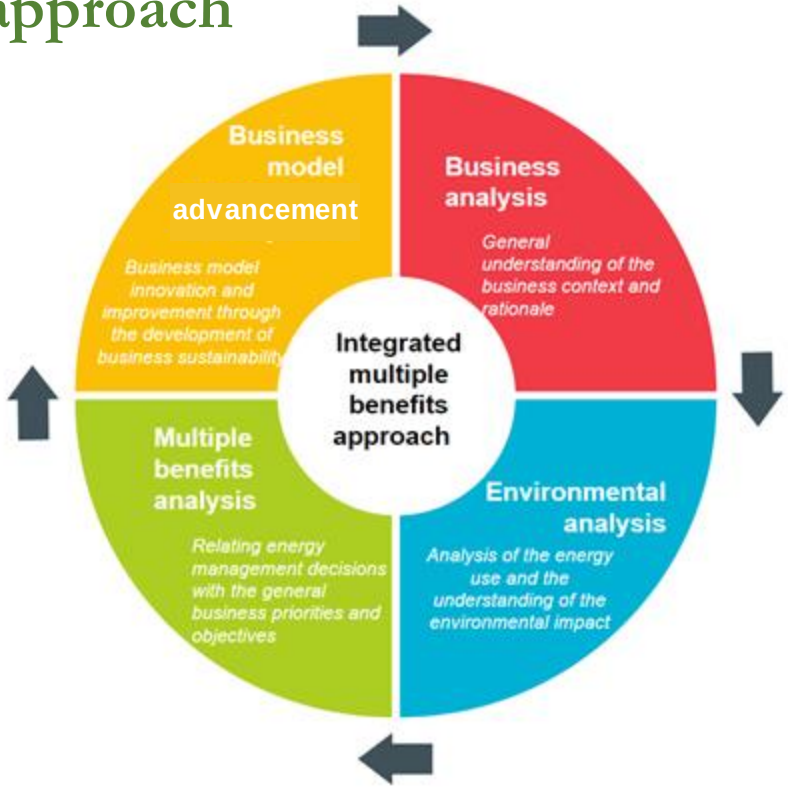
Integrated MB approach



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Step 1: Business model analysis

A **business model** refers to *the rationale of how an organization creates, delivers, and captures value* (Osterwalder and Pigneur, 2010).

The **Business model analysis** provides the baseline for the DEESME multiple benefits approach. It serves as a diagnostic tool for the description and understanding of the current business situation, practices and objectives and provides the basis for the multiple benefits analysis that spans energy analysis beyond energy efficiency to relate it to the attainment of the general business objectives.

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Step 1: Business model analysis

Objective

- **Goal of the BMC:** Provide a general understanding of the business context with regard to the value proposition, the customer, the business procedures, partnerships and the cost structure.

- **Output:** Draft the main features of the company business and get a first view of the opportunities and barriers to energy efficiency interventions to be identified and analysed in the energy audit step.

Note: *The method used will be the* ***Business Model Canvas****, which consists of a one-page document with 9 key blocks that collect the fundamental elements of a business in a structured way and helps to tailor the energy audit and the Energy Efficiency projects on companies' needs.*
5 out of the 9 building blocks of the business model will become the categories of multiple business benefits (Stage 3: Multiple Benefits Analysis) that can be related to the energy efficiency management

see next page →

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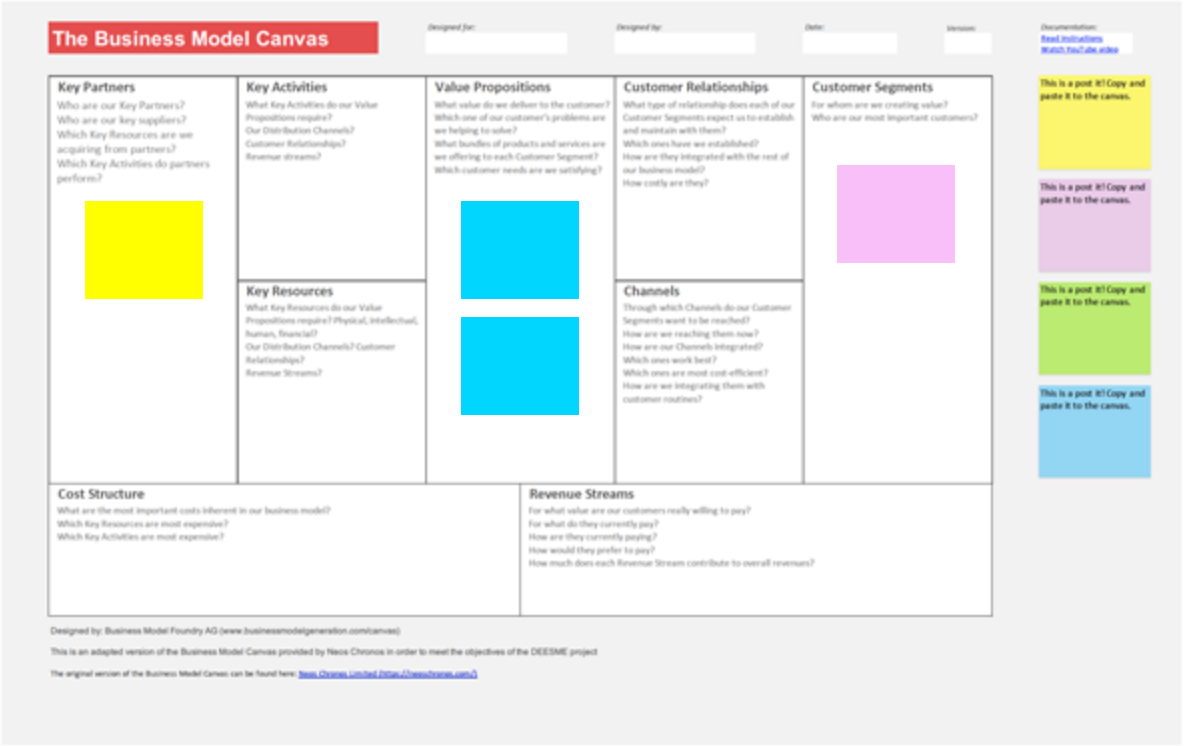
Implementation

Step 1: Business model analysis



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What is it?

Step 2: Cost structure analysis

The **cost structure analysis** identifies the cost centres, analyzes and reviews cost behaviour and group together all types of cost necessary to complete production processes. It is critical for the improvement of business efficiency and it helps to identify and prioritize opportunities for improved resource efficiency that can contribute to the business objectives. It is an important additional step in the business model analysis carried out by the energy auditor and the company.

For each cost centre it should be possible to:

- Identify it by geographical and/or functional point of view
- Measure energy consumption (directly or indirectly)
- Clearly identify one (or more) input(s) and one (or more) output(s).
- Calculate one or more energy indicators

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Step 2: Cost structure analysis

Objective

- **Goal of the Cost Structure:** provide a better understanding of the entire company's costs; identify which areas need a more in-depth analysis; help prioritizing energy efficiency opportunities; must be coherent with the Cost Structure identified in the previous step from Stage 1: the Business Model Analysis.

- **Output:** calculation of the energy costs and energy-related costs for each cost centres. Energy-related costs (i.e. staff, health & safety, maintenance, etc.) can be splitted between two or more cost centres (i.e. if your company spends 10.000 €/year for maintenance, 8.000 €/year for "unit 1" and 2.000 €/year for "unit 2", you could assign each cost to the relative cost centre).

Note: *a cost centre is an area of business activity, process or plant that can be metered effectively and where there is an opportunity to manage and reduce energy consumption.*

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Step 2: Cost structure analysis

➔ **Subdivision of cost centres:** coming from the "energetic structure" normally used for energy audits.

Process A (it should be repeated for each major process)*	Process unit 1 ; Process unit 2 ; etc
Utilities (auxiliary services)	Cold production (chillers, dry-coolers, …) ; boilers; air compressors; heat recovery; power plant; cogeneration plant; renewable energy (PV, solar systems, …); fans & blowers; pumps; AHUs, product handling, additional elements can be added.
General services	Lighting; offices conditioning; ventilation; IT equipment; additional services can added.
Vehicles (intended for personnel)	The type of vehicles should be added

*only for manufacturing companies

Step 3: Energy auditing

What is it?

According to **EN 16247**, an **energy audit** is a systematic inspection and analysis of energy use and energy consumption of a site, building, system or organization with the objective of identifying energy flows and the potential of energy efficiency improvements and reporting them.

Energy audits lead companies to identify and implement energy saving and efficiency measures adapted to the organization's needs while making energy use more cost effectively and environmentally friendly.

Step 3: Energy auditing

Objective

- **Goal of the Energy Auditing:** assess the current status of energy use in a company by determining the energy input, energy use and energy flows. It determines how to improve energy efficiency, reduce energy consumption and bring additional environmental benefits.

- **Output:**

  - Identify opportunities for energy savings and reduce the energy cost, which improves profitability and enhances competitiveness.
  - Identify opportunities for improvements in business processes and therefore improve productivity.
  - Help organizations to reduce the environmental impact of their activities and therefore to fulfil obligations with respect to emission control.
  - Improve employee satisfaction and the reputation of the company to customers and the community.

Note: *all sources of energy are to be taken into account (electricity, combustible fuels, heating, etc.) and all sites, processes, facilities and transportation of the company in which the company uses or consumes energy systematically.*

Step 3: Energy auditing

➔ Energy audit process:

According to the European standard DIN EN 16247-1 / Energy Audits - Part 1: General Requirements

1. Introductory contact
2. Kick-off meeting
3. Data collection
4. Field work
5. Analysis
6. Report
7. Final meeting

Step 4: Carbon footprint

What is it?

The **carbon footprint analysis** evaluates the greenhouse gas emissions caused by the business operations of the company. It captures the mix of energy sources used in producing, delivering and using a product/service, as well as non-energy related GHG emissions. The analysis support companies to estimate the carbon footprint of their major operations/products and provide guidelines on how to improve it.

Step 4: Carbon footprint

Objective

- **Goal of the carbon footprint estimation:** identify cost savings across the supply chain as well as opportunities to reduce environmental impact through reductions in material use, water, waste and energy.

- **Output:**
  - Quantification of GHG emissions of the organization
  - Quantification of GHG emissions of suppliers and customers (if scope 3 is applied)
  - Identification of impacts for specific products/services, in terms of tCO2eq
  - Help organizations to reduce their impact, quantifying the effort in order to achieve a specific reduction goal
  - Improve reputation of the company
  - Many big companies now start asking for a carbon footprint in order to insert a company in their suppliers list

Note: *Three core standards around carbon footprint analysis are the ISO 14044 (LCA), ISO/TS 14067, PAS 2050, and GHG Protocol. The* ***GHG Protocol*** *is one of the most common international protocols used by business leaders and governments to comprehend, quantify and control GHG emissions; It will be used as a reference method in this document.*

Step 4: Carbon footprint

Project scope

SCOPE 1: DIRECT GHG EMISSIONS
emissions from sources that are operated by the project/process. For example: combustion of fossil fuels, industrial processes and fugitive emissions, such as refrigerants or methane leakage.

SCOPE 2: INDIRECT GHG EMISSIONS
emissions associated with energy consumption (electricity, heating, cooling and steam); by improving energy consumption a company reduce also its GHG impact.

SCOPE 3: OTHER GHG EMISSIONS
Upstream/downstream emissions from a facility 100% dedicated to the project activity that would not otherwise exist and did not exist prior to the project inception.
Indirect GHG emissions from vehicles or fleets using transport infrastructure including modal shift effects.
Indirect GHG emissions associated with raw material production.
Indirect GHG emissions associated with product/service utilization and disposal at the end of its life.
Indirect GHG emissions for the production, processing and transport for biofuel and bioenergy projects (if applicable for determining climate mitigation eligibility).

Step 5: Multiple Benefits Identification

What is it?

The **multiple benefits identification** consists of identifying, among a given set of multiple benefits (to which additional benefits can be added), the ones that are relevant for a company.

The energy auditor/consultant, together with the management team of the company, will decide which types of multiple benefits and which additional benefits are useful in order to address the needs and objectives of the company.

Step 5: Multiple Benefits Identification

Objective

- **Goal of the multiple benefits identification:** provide a basis for the identification of business and non-energy benefits that can be related, directly or indirectly, to the energy efficiency benefits and measures.

- **Output:** an "open" list of multiple benefits that are tailored to the requirements of each individual company, according to the characteristics of the sector/subsector it operates and the particular business logic and objectives.

Note: *The identification of multiple benefits is based on the domains of the Business Model Canvas. It can be tailored to the company's needs and objectives by adding new, leaving out or modifying the proposed types of multiple benefits and indicators.*

→ *see next page*

Step 5: Multiple Benefits Identification

Note: *The energy auditor/ consultant and the company's managers will decide for the following:*

- *The types of multiple benefits that are relevant for the company.*
- *The indicators they will use (the ones suggested or any other indicator).*
- *Additional multiple benefits and/ or indicators that they believe necessary.*

DOMAIN	BENEFIT TYPE	INDICATOR
Value Proposition	1. Improved product/ service efficiency	Energy cost per unit of product/ service
	2. Introduction of new products/ services	N° of new 'green' products/ services
	3. Development or innovations	Total R&D expenses for 'energy efficiency' initiatives
Activities	4. Increased productivity	Value of output items/ Value of input items
	5. Increased utilization	Capacity utilization
	6. Improved maintenance	Maintenance Unit Cost
	7. Reduced carbon footprint	Total GHG emissions per year
	8. Improved quality	Right First Time
	9. Improved Safety	Incidence Rate
Resources	10. reduced energy consumption	Total energy consumption per year
	11. Improved raw materials consumption	Quantity of raw materials purchased
	12. Increased recycling	Percentage of total waste that is recycled
	13. Reduced waste	Waste reduction rate
	14. Increased employee satisfaction	Employee Satisfaction Index
Customers	15. Acquisition of 'green' customers	'Green' customers share
	16. Acquisition of new customers	New customers share
	17. Increased customer satisfaction	Satisfied customers share
	18. Increased customer loyalty	Loyal customers rate
Partners	19. Improved supply chain relationships	Total n° of suppliers with ISO certification for energy or environmental management
	20. Improved stakeholder relationships	Total n° of stakeholders involved in decision making
	21. Reduced litigation risks	Total amount of expenses and fines related to environmental law violations
	22. Increased regulatory compliance	N° of EU and national energy policies adopted

Step 6: Multiple Benefits Evaluation

What is it?

The **multiple benefits evaluation** aims to assess the significance and the potential impact of the multiple benefits identified on the companies' operation and business model in order to decide how they can take advantage of these multiple benefits.

Step 6: Multiple Benefits Evaluation

Objective

- **Goal of the multiple benefits evaluation:** assess and prioritize the different opportunities for exploiting the multiple benefits that are related to energy efficiency measures.
- **Output:** the results are employed for the development of ideas, plans and course of actions for the business exploitation of the multiple benefits that are related to energy efficiency measures.

Note: *The evaluation of the multiple benefits requires the collaboration between the energy auditor/ consultant and the business managers who participate in the multiple benefits analysis. The evaluation is qualitative in nature and it is based on the knowledge, experience and insights of the energy auditor/ consultant.*

Step 6: Multiple Benefits Evaluation

Implementation

Identify or add relevant **non-energy related benefits** and evaluate them according to their level of significance (1) and their impact (2) on value creation and on efficiency for the company. Then decide how the company can take advantage of the multiple benefits with the highest valuation.

BENEFIT	SIGNIFICANCE	IMPACT		EXPLOIT. PROPOSAL
		Value Creation	Efficiency	
1. New Products/ Services	Major	High	High	
2. Innovations	Major	High	High	
3. Market value	Minor	Low	Low	
4. Productivity	Minor	Low	High	
5. Utilization	None	--	--	--
5. Maintenance	None	--	--	--
6. Carbon footprint	Minor	Low	High	
7. Quality	Major	High	High	
9. Safety	Major	Low	High	
10. Energy consumption	Minor	Low	High	
11. Raw material consumption	None	--	--	--
12. Recycling	Minor	Low	High	
13. Waste	None	--	--	--
14. Employee satisfaction	High	High	High	
15. 'Green customers' share	Major	High	Low	
16. New customers	Minor	High	Low	
17. Customer satisfaction	Major	High	Low	
18. Customer loyalty	Major	High	Low	
19. Supply chain relationships	Minor	High	Low	
20. Stakeholder relationships	Minor	High	Low	
21. Litigation risks	Minor	Low	Low	
22. Regulatory compliance	High	Low	High	

Step 7: Business Model Advancement

What is it?

The **Business Model Sustainability Advancement** searches for opportunities for business model innovation and improvement through the development of business sustainability.
It takes place after the evaluation of the multiple business and non-energy benefits that can suppelment the energy effciency measures and concludes the DEESME Multiple Benefits approach.

Step 7: Business Model Advancement

Objective

- **Goal of the BMA:** the advancement of business model sustainability through business model innovation and improvement.
- **Output:** the new improved business model provides answers to key questions for sustainable business and frames a roadmap for a sustainable business future. It outlines the opportunities that can derive from the adoption of energy efficiency measures and the development of sustainable business practices and ideas.

Note: Business sustainability refers to the effect of the business activities on the environment, with the intention not only to avoid harming the environment, but to have a positive impact and to pursue mutual benefits. The concept of business sustainability today extends beyond the business impact on the environment and includes also the business impact on the community and the society.

Step 7: Business Model Advancement

Implementation

Sustainable Business Model Canvas

Designed for:

Designed by:

Date:

Version:

Documentation:
Read instructions
Watch YouTube video

Key Partners
Can we choose partners with compelling sustainability certifications and social reports?
How can we collaborate with stakeholders for the advancement of business sustainability?

Key Activities
How can we improve the efficiency of the key activities?
How can we develop sustainable practices (e.g. recycling) in the performance of the key activities?

Key Resources
How can we develop sustainability of the key resources?
What alternative sustainable resources exist?

Value Propositions
How can we better respond to customers' lookout for sustainability?
What are the opportunities for sustainable business in our market?

Customer Relationships
How can we cultivate the values of sustainability with customers?

Channels
How can we use low impact distribution and communication channels?
.

Customer Segments
What are the social and market trends with regard to sustainability?
What are the needs of each customer/customer segment related to resource efficiency and sustainability?

Cost Structure
How can we exploit sustainable alternatives in order to deduce cost?
How can we exploit sustainable alternatives in order to reduce risks?

Revenue Streams
How can we develop innovative financial models for the successful monetization of sustainability opportunities?
How can we meet business sustainability and profitability?
How can we promote the fair distribution of benefits and profits to all constituents?
.

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This is a post it! Copy and paste it to the canvas.

Designed by: Business Model Foundry AG (www.businessmodelgeneration.com/canvas)

This is an adapted version of the Business Model Canvas provided by Neos Chronos in order to meet the objectives of the DEESME project

The original version of the Business Model Canvas can be found here: Neos Chronos Limited (https://neoschronos.com/)

Extended Energy Management System

- According to ISO 50001:2018

Management System: set of interrelated or interacting elements of an organization (3.1.1) to establish policies (3.2.3) and objectives (3.4.13) and processes (3.3.6) to achieve those objectives

Energy Management System EnMS: management system (3.2.1) to establish an energy policy (3.2.4), objectives (3.4.13), energy targets (4.3.15), action plans and process(es) (3.3.6) to achieve the objectives and energy targets

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Extended Energy Management System – basic concepts

- **Multiple Benefit:** those benefits realted to energy efficiency projects/actions that do not strictly result from energy saving actions.
- **Multiple Benefit aspect:** those aspets, involved by energy efficiency projects/actions, that relate to áreas of operation of of the business other than energy savings.
- **Extended EnMS:** the energy management system supporting the Multiple Benefit approach, which scope includes Multiple Aspects.

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Extended Energy Management System – basic concept

Added value of the MB approach

Maximising benefits related to energy efficiency actions: extended analysis of options, documented approach for an appropriated communication towards business customers, public procurers, consumers, communities, etc.

Approaching the compliance with new EU Policies and Acts such as:

→ Corporate Sustainability reporting (2014/95/EU Directive)

→ Taxonomy Regulation (852/2021)

→ Agenda 2030 requisites

Improving performances of the overall management and specific aspects management such as environment, occupational health and safety, process efficiency, communication, marketing, procurement, etc.

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Extended Energy Management System

ISO 50001 introduction

In the process of improving their energy performance, organizations should include the evaluation of other energy-related performances (e.g.: performance regarding the environment, occupational health and safety, production processes efficiency, etc.) in order to better highlight all the benefits obtainable from energy improvement in addition to those strictly linked to energy costs savings.

The Multiple Benefit approach can increase the awareness of the company management and staff of the strategic role of energy efficiency and of the need to involve all levels of the organization in its improvement process.

According to the standard requirements, all the elements of an EnMS may be valorised considering multiple aspects. Policies, objectives, strategies of companies should consider other strategic issues together with energy efficiency and performance issues.

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Considerations of ISO 50001

Clause 4.1: understanding the organisation and its context

The MB approach requires to expand the scope of investigation and intervention, therefore to expand its purposes and the intended outcomes of the EnMS. Consequently, relevant external and internal aspects to be considered could be more than those usually analysed for a typical EnMS. For example:

- Changes to environmental policies and laws (e.g.: Taxonomy Regulation).
- Changes to health and safety policies and laws in the workplace.
- Customer inquiries (e.g. life cycle approach, etc.), since the life cycle impact may be strongly influenced by energy efficiency.
- Modifications to Laws and regulations regarding public and private procurement (i.e.: evidence of complying with energy and other requirements at the same time may be required).
- Impacts on working environment, employees' attitude, sense of belonging and commitment (less absenteeism, more productivity,etc.) since investments in new plants or installations due to energy efficiency targets may influence these aspects).

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Considerations of ISO 50001

Clause 5.1: leadership and commitment

Bullet c): Need to ensure the integration of the management system into business processes: the inclusion of several aspects in the scope determines the growth of the importance of the system for the business and a wider involvement of the company management.

Bullet d): The top management ensures the improvement programs are approved and carried out: investments generate energy saving benefits together with benefits on the field of H&S, environment, human resources, etc. An action plan supporting an investment is successful if shared among all involved managers and when all benefits are defined and communicated.

Bullet i): Considering the extended scope of the EnMs, the energy management team can be more effective including additional members responsible for issues included into the EnMS scope; H&S, communication managers, etc.

Bullet j): The adoption of the MB approach requires that people contribute to the EnMS effectiveness for all issues included into the scope. Training can support awareness and commitment. Training should cover a wider range of contents. This determines the need not to separate the technical knowledge within the company.

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Considerations of ISO 50001

Clause 5.1: leadership and commitment

Bullet k): with MB approach, the support to other management roles acquires even greater importance and effectiveness; the action should better involve a bigger number of subjects and/or functions. Support should be therefore reinforced. For example, it seems useful that roles, responsibilities, powers and authorities are clearly defined and communicated. This not only for energy management but also for other aspects and both in the definition phase of the organization chart and in the attribution of specific roles, responsibilities, and authorities.

Bullet l): considering the extended EnMS scope, together with EnPI(s), also additional performance indicators may be defined as far as useful to monitor and demonstrate the achievement of intended benefits.

Bullet m): to ensure that processes are implemented to identify and address changes affecting the EnMS and energy performances, it should be ensured that the proper "management committee" deals on a regular basis with the EnMS requirements and effects on production, EH&S, organization, etc.

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Considerations of ISO 50001

Example 1

Replacement of the heating systems in a mechanical manufacturing department to save energy costs, improve indoor environment quality, reduce reduce risks during maintenance and enhance internal and external communications.

Details, problems and opportunities

A company producing electrical appliance provides heating in a mechanical manufacturing department using heating fans powered by natural gas. This system warms up the whole volume of air in the area. The technical intervention is the substitution of fans with infrared radiating panels powered with the pre-existing natural gas pipelines. Energy savings are expected: small volumes of air will be warmed up, because people and workplaces will be directly heated by radiations and because no thermal energy will be lost through air change.

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DEESME

National schemes for energy efficiency in SMEs

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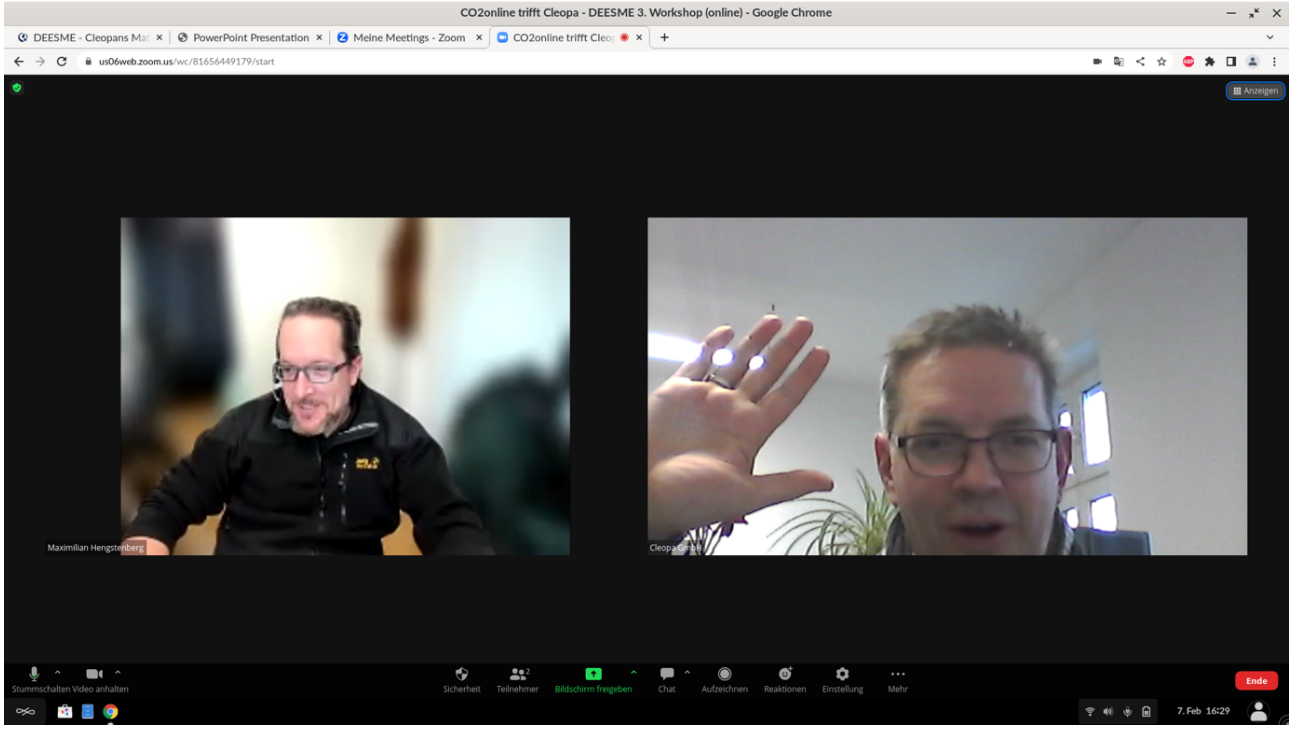
3rd Working session, 07/02/2023: Screenshot from online meeting



PowerPoint presentation

DEESME

National schemes for energy efficiency in SMEs

3 workshops cycle
‘Key actors recommendations for policy makers to improve national schemes’

Detlef Olschewski, Cleopa GmbH

16th November 2022

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3 workshops cycle

- 1st workshop: Introduction to the DEESME Project and presentation of the concepts and methodologies developed within the project.
- 2nd workshop: Presentation of the DEESME Multiple Benefits approch and its application.
- **3rd workshop: Working sesion based on a set of questions to discuss and collect key actors' points of view. Recommendations for policy makers.**

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Third workshop

Date and time: 7th Feb 2023

Objective: Collection of Key actor's points of view and formulation of recommendations for policy makers

Programme:

1. Work session based on a set of questions
2. Free discussion open to further points of view
3. Discussion

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To what extend are you aware of energy efficiency?

- Do businesses have a clear understanding of which **official websites** (those of the competent authorities/agencies) to consult to **obtain information** on obligations, benefits and other aspects related to energy efficiency?

- Do you think it is clear what **incentives** are **available to companies** for energy audits, the energy management system and investments?

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To what extend are you aware of energy efficiency?

- Do you think that a **centralized information hub** would be appropriate for incentives rather than a division between several subjects (e.g. State, Regions, Agencies, etc.)? With the involvement of the sector trade associations?

- Do you have any suggestion on this? Are companies aware on the **added value** linked to **energy efficiency?**

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To what extend are you aware of energy efficiency?

To increase the uptake of energy efficiency measures, do you think it would be useful to have more information on **Non-Energy Benefits (multiple benefits)** related to energy efficiency? (examples of investmenets análisis, presentations of best practices, guidelines for evaluating multiple benefits).

What **tools** do you think could be useful for increasing the sensitivity and **awareness** of companies, CEO, managers, etc. about **non energy benefits**? What about the employees?

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To what extend are you aware of energy efficiency?

- Do you think that a unified and **clear information framework** (a set of structured guidelines) could be useful to help clarify the relationships between energy obligations – or NON obligations – and sustainability? (e.g. Carbon Footprint, Corporate Sustainability Reporting Directive, Taxonomy).

- Do you think that the Carbon Footprint calculation could be associated to the energy audit to promote a "Organisation Carbon reduction" competition among obliged and non-obliged companies? Would it be better to promote a "Organisation Carbon Footprint" competition on the basis of sectoral benchmarks?

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To what extend are you aware of energy efficiency?

- Should the Carbon footprint be mandatory for companies obliged to carry out the energy Audit?

- According to a strategic political perspective, do you think that the Energy Audit should be overcome by the concept of "Audit of the use of resources"?

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Any other considerations not mentioned?

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What would you recommend to improve national schemes?

Tell us your point of view and suggestions/recommendations to support National Authorities in designing effective national schemes for energy efficiency.

1.
2.
3.
4.
5.

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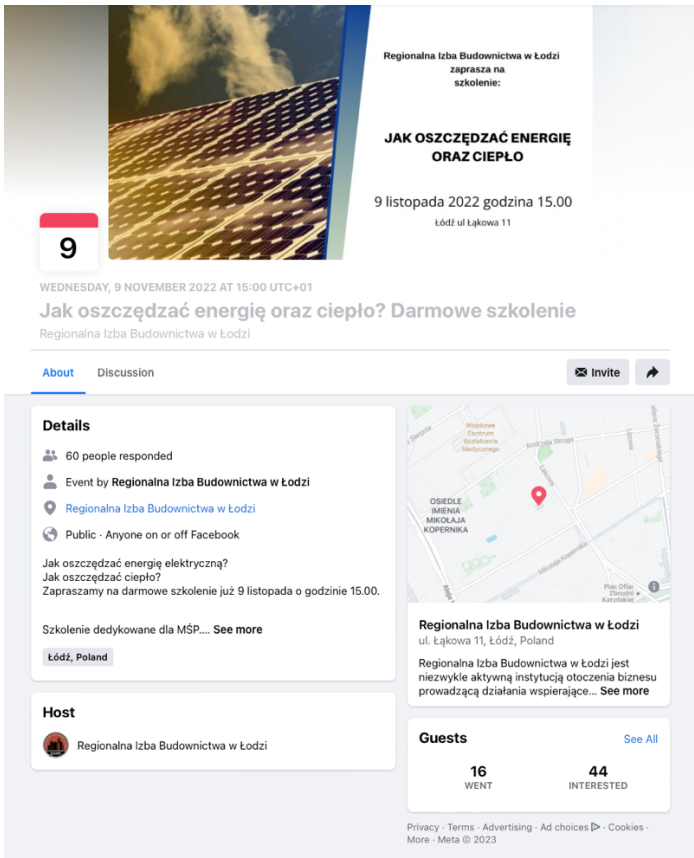
POLAND

1st Workshop, 09/11/2022: Facebook event promotion



2nd Workshop, 30/11/2022: Event registration page:

Wstęp do efektywności energetycznej, czyli audyt energetyczny oraz systemy zarządzania energią

Mgr inż. Anna Piórkowska

KAPE

Krajowa Agencja Poszanowania Energii S.A.

DEESME

eko MAŁOPOLSKA dla KLIMATU

Life

NFOŚiGW

Małopolskie Centrum Przedsiębiorczości

15 lat

INSTYTUCJA WOJEWÓDZTWA MAŁOPOLSKIEGO

Projekt DEESME otrzymał dofinansowanie z unijnego programu badań naukowych i innowacji "Horyzont 2020" w ramach umowy o udzielenie dotacji nr 892235.

Plan prezentacji

- **Wstęp do efektywności energetycznej – aspekty prawne**
- **Implementacja Art. 8 Dyrektywy o Efektywności Energetycznej**
- **Audyt energetyczny oraz jego korzyści**
- **Normy ISO**
- Efektywne zarządzanie energią – wyzwania, standardy i korzyści
- Projekt DEESME i wielorakie korzyści dla firm
- Narzędzia dla przedsiębiorców

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Wstęp do efektywności energetycznej – aspekty prawne

- Dyrektywa Parlamentu Europejskiego i Rady 2012/27/UE z dnia 25 października 2012 r. w sprawie efektywności energetycznej, zmiany dyrektyw 2009/125/WE i 2010/30/UE oraz uchylenia dyrektyw 2004/8/WE i 2006/32/WE
- Dyrektywa Parlamentu Europejskiego i Rady (UE) 2018/2001 z dnia 11 grudnia 2018 r. w sprawie promowania stosowania energii ze źródeł odnawialnych
- Europejski Zielony Ład (Komunikat Komisji do Parlamentu Europejskiego, Rady Europejskiej, Rady Komitetu Ekonomiczno-Społecznego i Komitetu Regionów Europejski Zielony Ład)
- Pakiet „Fit for 55" (Komunikat Komisji do Parlamentu Europejskiego, Rady Europejskiego Komitetu Ekonomiczno-Społecznego i Komitetu Regionów „Gotowi na 55": osiągnięcie unijnego celu klimatycznego na 2030 r. w drodze do neutralności klimatycznej)

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Wstęp do efektywności energetycznej – aspekty prawne

- Ustawa z dnia 20 lutego 2015 r. o odnawialnych źródłach energii (Dz.U. 2015 poz. 478 z późń. zm);
- Ustawa z dnia 20 maja 2016 r. o efektywności energetycznej (Dz.U. 2016 poz. 831 z późń. zm.);
- Polityka Energetyczna Polski do 2040 r. (zaimplementowana uchwałą nr 22/2021 Rady Ministrów);

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Implementacja Art. 8 Dyrektywy o Efektywności Energetycznej

Dyrektywa dotycząca efektywności energetycznej ustanawia ramy koniecznych do podjęcia środków oraz spełnienia wymogów zapewniających bardziej efektywne wykorzystanie energii w podaży i popycie. W Art. 8 Dyrektywy zaproponowano sposoby osiągnięcia tego celu, zobowiązując państwa członkowskie do promowania i ułatwiania wdrażania audytów energetycznych i systemów zarządzania energią.

Według Komisji Europejskiej **efektywność energetyczna** odnosi się do zwiększenia efektywności zapotrzebowania na energię i dostaw energii, w szczególności poprzez opłacalne inicjatywy w zakresie oszczędności energii końcowej w kontekście dynamicznego reagowania na jej zapotrzebowanie, jak również bardziej wydajnego przetwarzania, przesyłu i dystrybucji energii. Jednocześnie duży nacisk jest położony na faktyczną realizację podjętych decyzji i spełnienie założonych celów.

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Audyt energetyczny a system zarządzania energią

- Audyt energetyczny jest okresowym badaniem; usystematyzowaną jednorazową procedurą, która pomaga natychmiast zidentyfikować ulepszenia, które należy wprowadzić w celu zwiększenia efektywności energetycznej.

„Art. 2, ust. 1) audyt efektywności energetycznej – opracowanie zawierające analizę zużycia energii oraz określające stan techniczny obiektu, urządzenia technicznego lub instalacji, zawierające wykaz przedsięwzięć służących poprawie efektywności energetycznej obiektu, urządzenia technicznego lub instalacji, a także ocenę ich opłacalności ekonomicznej i możliwej do uzyskania oszczędności energii" – Ustawa z dnia 20 maja 2016 r. o efektywności energetycznej (Dz. U. 2016 poz. 831, t.j. Dz. U. z 2021 r. poz. 2166.)

- Zarządzanie energią jest długoterminową strategią poświęconą ciągłemu doskonaleniu i poprawie efektywności energetycznej poprzez monitorowanie zużycia energii w czasie.

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Korzyści płynące z audytu energetycznego

- Oszczędności finansowe
- Zmniejszone zużycie energii
- Redukcja odpadów
- Lepsza jakość produktów
- Lepsze warunki pracy
- Zwiększenie produktywności i komfortu pracowników
- Wzrost stopnia zatrzymania pracowników i rekrutacja nowych
- Niższe koszty eksploatacji i konserwacji
- Zmniejszona zależność od zmienności cen energii
- Uzyskanie przewagi konkurencyjnej
- Zoptymalizowanie operacji, procesów i wykorzystania zasobów

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Normy ISO

ISO 50001	Standard służący procesowi ciągłego doskonalenia efektywnego wykorzystania energii. Może odnosić się do każdej organizacji bez względu na jej wielkość czy rodzaj. Skierowana głównie do firm z wysoką konsumpcją energii.	**Korzyści:** efektywne zarządzanie energią, ograniczenie wydatków związanych z energią = zmniejszenie kosztów działalności, wzrost konkurencyjności, poprawa wizerunku firmy
ISO 14001	Określa ramy do stworzenia skutecznego systemu zarządzania środowiskowego. Pomaga udoskonalić wydajność środowiskową poprzez efektywne wykorzystanie zasobów oraz zmniejszenie strat. Może odnosić się do każdej organizacji bez względu na jej wielkość czy rodzaj.	**Korzyści:** zwiększenie przewagi konkurencyjnej i finansowej poprzez poprawę wydajności i obniżenie kosztów, zmniejszenie negatywnego wpływu na środowisko oraz rozszerzanie pro-środowiskowych działań, poprawa wizerunku firmy
ISO 9001	Dotyczy systemu zarządzania jakością. Może odnosić się do każdej organizacji bez względu na jej wielkość czy rodzaj.	**Korzyści:** poprawa wizerunku firmy, wzrost konkurencyjności, stabilność i powtarzalność procesów, ład organizacyjny

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Plan prezentacji

- Wstęp do efektywności energetycznej – aspekty prawne
- Implementacja Art. 8 Dyrektywy o Efektywności Energetycznej
- Audyt energetyczny oraz jego korzyści
- Normy ISO
- **Efektywne zarządzanie energią – wyzwania, standardy i korzyści**
- **Projekt DEESME i wielorakie korzyści dla firm**
- **Narzędzia dla przedsiębiorców**

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Najważniejsze wyzwania związane z efektywnym zarządzaniem energią

- Zwiększenie świadomości: materiały konkretnie dla MŚP, poznanie historii innych firm, peer network, wskazanie istotności nie energetycznych korzyści z audytu
- Przeprowadzenie audytów: znalezienie audytora, wykonanie pomiarów zużycia energii, braki w danych np. finansowych
- Wdrażanie wyników audytów energetycznych: potrzeba systemu wsparcia finansowego i informacyjnego, wyjaśnienie wyników audytu, zwracanie uwagi przez audytorów na poza energetyczne korzyści wdrożenia audytu
- Wdrażanie systemu zarządzania energią: stworzenie zespołu ds. zarządzania energią, identyfikacja wymagań prawnych, monitorowanie rezultatów

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Działania niezbędne do efektywnego zarządzaniem energią

- Określenie potrzeb przedsiębiorstwa
- Ustanowienie polityki energetycznej i celów energetycznych
- Przeprowadzenie audytu wewnętrznego
- Określenie niezbędnych procesów i obowiązków
- Określenie wskaźników efektywności energetycznej oraz wydajności energetycznej
- Ustanowienie metody monitoringu i analizy w zakresie energii
- Określenie środków efektywnej kontroli operacyjnej
- Dokonanie przeglądu i monitorowanie celem ciągłego zwiększania efektywności energetycznej

Źródło: https://kape.gov.pl/wdrazanie-systemu-zarzadzania-energia-iso-50001

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Korzyści wynikające z zarzadzania energią w MŚP

- Ujednolicona struktura zarządzania energią w firmie
- Wzrost efektywności energetycznej
- Wprowadzanie zrównoważonych działań na rzecz środowiska (np. redukcja emisji CO2)
- Transparentność działań
- Wzrost świadomości ekologicznej oraz ekonomicznej w firmie

Źródło: https://www.tuv.com/sweden/en/iso-50001-energy-management.html

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O projekcie

Projekt DEESME ma na celu promowanie dyrektywy UE w sprawie efektywności energetycznej (EED) poprzez wspieranie przedsiębiorstw, a zwłaszcza MŚP, we wdrażaniu środków oszczędzania energii w celu wykorzystania technologii niskoemisyjnych, poprawy efektywności materiałowej / zasobów i opracowania systemów energii odnawialnej.

Podejście DEESME o wielorakich korzyściach ma na celu powiązanie środków efektywności energetycznej z korzyściami nieenergetycznymi i ogólnymi korzyściami biznesowymi. Dzięki temu zarządzanie efektywnością energetyczną może być powiązane z zarządzaniem przedsiębiorstwem i celami strategicznymi firmy.

DEESME ma na celu rozpowszechnianie koncepcji wielorakich korzyści, która została już ukształtowana w europejskim projekcie MBenefits H2020, oraz wspieranie MŚP w dostrzeganiu wielorakich korzyści płynących z audytów energetycznych i systemów zarządzania energią. Proponowane podejście oparte na wielorakich korzyściach zachęci MŚP do spojrzenia na zarządzanie energią z nowej perspektywy, która łączy efektywność energetyczną z rozwojem i zwiększeniem konkurencyjności przedsiębiorstw.

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Podejście DEESME – jak wspiera ono firmy?

DEESME zapewni nowe podejście do audytu, które angażuje personel firm do tworzenia kultury wokół oszczędności energii i roli skutecznego zarządzania.

DEESME zorganizuje sesje informacyjne i szkoleniowe, a także warsztaty i wizyty, których celem będzie dotarcie do 500 uczestników. Umożliwi to podniesienie świadomości wśród przedsiębiorstw na temat wielorakich korzyści poprawy efektywności energetycznej. Zestawienie kluczowych zaleceń dotyczących ulepszenia programów krajowych zostanie opracowane na podstawie spotkań, biorąc pod uwagę TWOJĄ opinię. Zaangażowane będą także stowarzyszenia, federacje i inne kluczowe podmioty ze świata biznesu.

W celu zweryfikowania proponowanego podejścia do Systemów Zarządzania Energią (EMS), 20 firm z Włoch, Bułgarii, Polski i Niemiec otrzyma wsparcie w tworzeniu Systemów Zarządzania Energią poprzez testowanie modeli opracowanych przez DEESME. 50 firm otrzyma wsparcie w postaci audytu energetycznego wskazującego wielorakie korzyści efektywności energetycznej.

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Grupa docelowa

władze publiczne

- Wsparcie w pokonaniu wyzwań
- Wypracowanie rozwiązań wspierających wdrożenie Art. 8 Dyrektywy o Efektywności Energetycznej z uwzględnieniem wielorakich korzyści efektywności energetycznej

przedsiębiorstwa

- Wsparcie przedsiębiorstw (głównie MŚP) w opracowaniu i wdrożeniu przedsięwzięć poprawy efektywności energetycznej poprzez informacje, szkolenia, wdrożenie metodyki audytowej i systemów zarządzania energią z uwzględnieniem wielorakich korzyści

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Wyzwania wdrożenia Art.8 Dyrektywy o Efektywności Energetycznej

Duże przedsiębiorstwa

1. Ograniczone zasoby do transpozycji Dyrektywy
2. Identyfikacja przedsiębiorstw zobowiązanych
3. Zapewnienie przestrzegania wymogów
4. Jakość audytów
5. Kompromis między raportowaniem i monitorowaniem
6. Zwiększenie liczby wdrażanych przedsięwzięć

MŚP

7. Wypracowanie nowych mechanizmów wsparcia
8. Ograniczone zasoby
9. Stymulowanie działań
10. Podnoszenie świadomości o dostępnym wsparciu
11. Wielorakie korzyści

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Wielorakie korzyści poprawy efektywności energetycznej

Metodyka uwzględnienia wielorakich korzyści przy wykonaniu audytu energetycznego
i wdrożeniu normy ISO 50001

https://www.deesme.eu/wp-content/uploads/2021/09/D3.1_Multiple-benefits-approach-of-energy-audit.pdf

Na podstawie: IEA, 2015, Capturing the Multiple Benefits of Energy Efficiency

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DEESME a wielorakie korzyści

- **Propozycja wartości:** wielorakie korzyści związane z poprawą wydajności produktów/usług, nowymi produktami (zwłaszcza "produktami ekologicznymi") i innowacjami.

- **Działania:** wielorakie korzyści związane z produktywnością, wykorzystaniem, konserwacją, emisjami/śladem węglowym, jakością i wypadkami/ryzykiem.

- **Zasoby:** wielorakie korzyści związane ze zużyciem energii, zużyciem surowców/wody/materiałów eksploatacyjnych, odpadami, recyklingiem, pracownikami (zadowolenie, zdrowie i bezpieczeństwo, umiejętności, szkolenia).

- **Klienci** (w tym kanały i relacje): wielorakie korzyści związane z udziałem "zielonych klientów" / "zieloną sprzedażą", nowymi klientami, satysfakcją klienta, lojalnością klientów.

- **Partnerzy:** wielorakie korzyści związane z relacjami w łańcuchu dostaw (np. zielone zamówienia publiczne, umowy strategiczne oparte na przyjęciu norm ISO), ryzykiem sporów sądowych, zgodnością z przepisami (przyjęcie polityki społecznej i środowiskowej) oraz relacjami z interesariuszami.

* Wielorakie korzyści nie są bezpośrednio związane z przychodami i strukturą kosztów, ale są one zwykle wyrażane (bezpośrednio lub pośrednio) jako zwiększone przychody lub zwiększona wydajność.

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Standardy i korzyści wynikające z zarzadzania energią w MŚP w połączeniu z podejściem wielu korzyści DEESME

Zintegrowane podejście wielu korzyści w DEESME ma na celu waloryzację roli Systemu Zarządzania Energią w zarządzaniu razem z aspektami wielu korzyści oraz osiąganie, wyjaśnianie, waloryzację i komunikowanie wiele korzyści.

System ten nosi nazwę "Extended Energy Management System", którego zakres obejmuje zarządzanie wieloma korzyściami.

Integracja zarządzania aspektami wielorakich korzyści może być dokonana przy bardzo ograniczonym i znikomym wzroście kosztów w porównaniu z wynikającymi z tego korzyściami.

(zapraszamy na stronę https://www.deesme.eu/knowledge-hub/ do dokumentu opisującego powiązania podejścia wielu korzyści DEESME z Systemem zarządzania energią zgodnie z ISO 50001.)

DEESME

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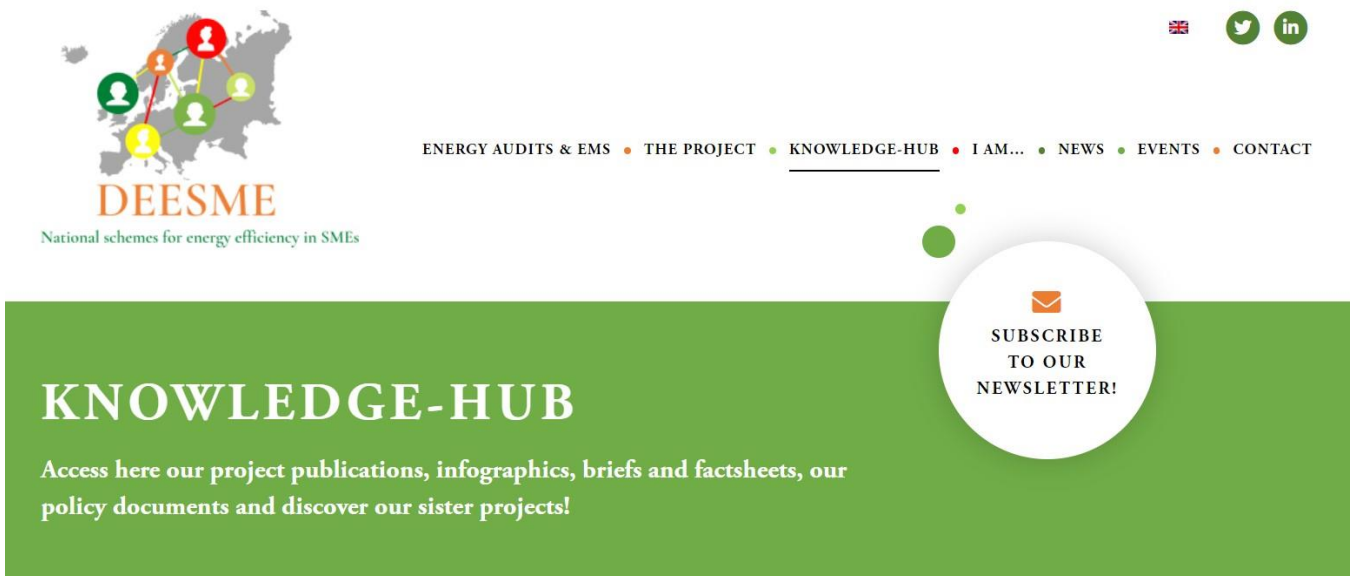
Wielorakie korzyści poprawy efektywności energetycznej – baza wiedzy



Metodyka uwzględnienia wielorakich korzyści przy wykonaniu audytu energetycznego

https://www.deesme.eu/wp-content/uploads/2021/09/D3.1_Multiple-benefits-approach-of-energy-audit.pdf

Metodyka uwzględnienia wielorakich korzyści przy wdrożeniu systemów zarządzania energią

https://www.deesme.eu/wp-content/uploads/2021/11/D3.2_DEESME-Final_22-10-21.pdf

Dedykowane narzędzie do analizy wielorakich korzyści

https://www.deesme.eu/the-integrated-multiple-benefits-tool/

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Narzędzia dla przedsiębiorców

- Narzędzie DEESME do oceny wielorakich korzyści

Oraz dostępne na stronie www.gov.pl/web/audytywmsp

- Kalkulator oszczędności energii
- Podręcznik do samooceny zużycia energii dla MŚP
- Dobre praktyki
- Self-audyt
- E-Doradca MŚP
- Kurs e-learningowy

DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Narzędzie do oceny wielorakich korzyści

Wdrożenie podejścia DEESME o wielorakich korzyściach dokonywane jest przy użyciu narzędzia w postaci pliku arkusza kalkulacyjnego, który kieruje procedurą analityczną; każdy etap procedury zostanie opracowany w osobnej sekcji pliku arkusza kalkulacyjnego.

Krajowe schematy na rzecz efektywności energetycznej w MŚP

DEESME

Narzędzie do wdrażania podejścia wielorakich korzyści

DEESME jest projektem finansowanym z programu EU Horizon 2020 mającym na celu przeprowadzić małe i średnie przedsiębiorstwa oraz władze lokalne przez transformację energetyczną, przy wykorzystaniu zalet podejścia **wielorakich korzyści** i **zarządzania energią**.
Podejście wielorakich korzyści pomaga spojrzeć na środki i decyzje związane z efektywnością energetyczną w szerszym kontekście zarządzania biznesem i pozwala zidentyfikować wielorakie biznesowe i nieenergetyczne korzyści, które komplementarnie wynikają zrozwoju audytów energetycznych i systemów zarządzania energią.

Wersja: 1.0

Cel: Plik ten zawiera narzędzie do wdrożenia podejścia **wielorakich korzyści.**
Składa się ono z sześciu kroków; każdy z nich jest rozwijany w osobnym arkuszu:

Krok 1	Analiza modelu biznesowego
Krok 2	Analza struktury kosztów
Krok 3	Audyt energetyczny
Krok 4	Obliczanie śladu węglowego
Krok 5	Identyfikacja i ocena wielorakich korzyści
Krok 6	Model biznesowy w kontekście zrównoważonego rozwoju

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Narzędzia dla MŚP

1. Kalkulator oszczędności energii

Inwentaryzacja urządzeń biurowych i AGD oraz oszacowanie potencjalnych oszczędności energii przy wymianie poszczególnych urządzeń na modele o najwyższej efektywności energetycznej.

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Narzędzia dla MŚP – kalkulator

Źródło: https://www.kalkulator.kape.gov.pl/

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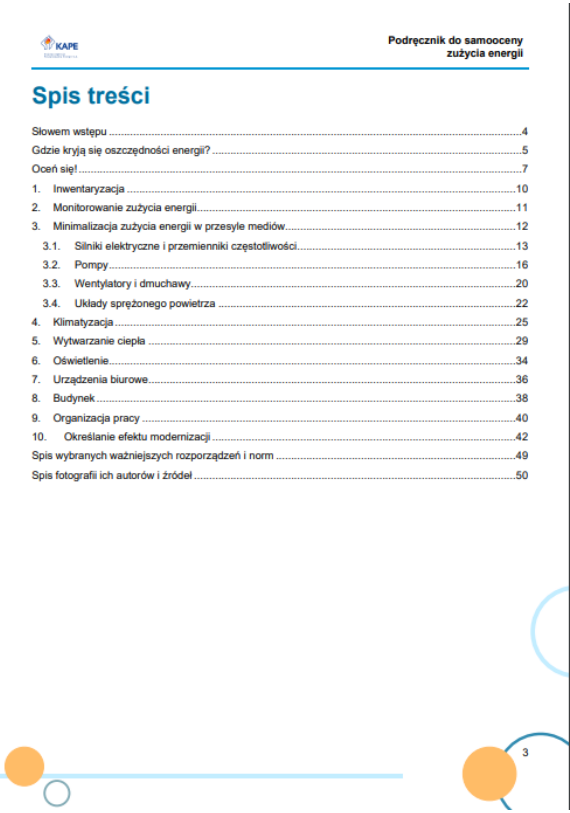
Narzędzia dla MŚP

2. Podręcznik do samooceny zużycia energii dla MŚP

Zawiera analizę działań wpływających na poprawę efektywności energetycznej w przedsiębiorstwie oraz listę pytań, które ułatwią czytelnikowi samoocenę efektywności energetycznej w swojej firmie.



Źródło: https://www.gov.pl/web/audytywmsp/podrecznik-dla-przedsiebiorcy

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Narzędzia dla MŚP

3. Dobre praktyki

50 dokumentów przedstawiających poszczególne działania mogące poprawić efektywność energetyczną przedsiębiorstwa wraz z opisem korzyści wynikających z konkretnych działań m.in. modernizacyjnych.

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Narzędzia dla MŚP

4. Self-audyt

Umożliwia inwentaryzację: budynków, silników elektrycznych, pomp, sprężarek, wentylatorów, klimatyzatorów, źródeł ciepła oraz instalacji oświetleniowych.

Istniejące w narzędziu pytania przedaudytowe pozwalają użytkownikowi dowiedzieć się czy urządzenia (spośród tych wymienionych powyżej) w jego firmie są dobrze eksploatowane czy istnieje możliwość optymalizacji ich pracy.

Narzędzie zawiera również proste kalkulatory, które mają na celu oszacowanie potencjalnego czasu zwrotu dla podejmowanych działań na rzecz efektywności energetycznej, takich jak np. wymiana silnika, wymiana pompy czy wymiana kotła.

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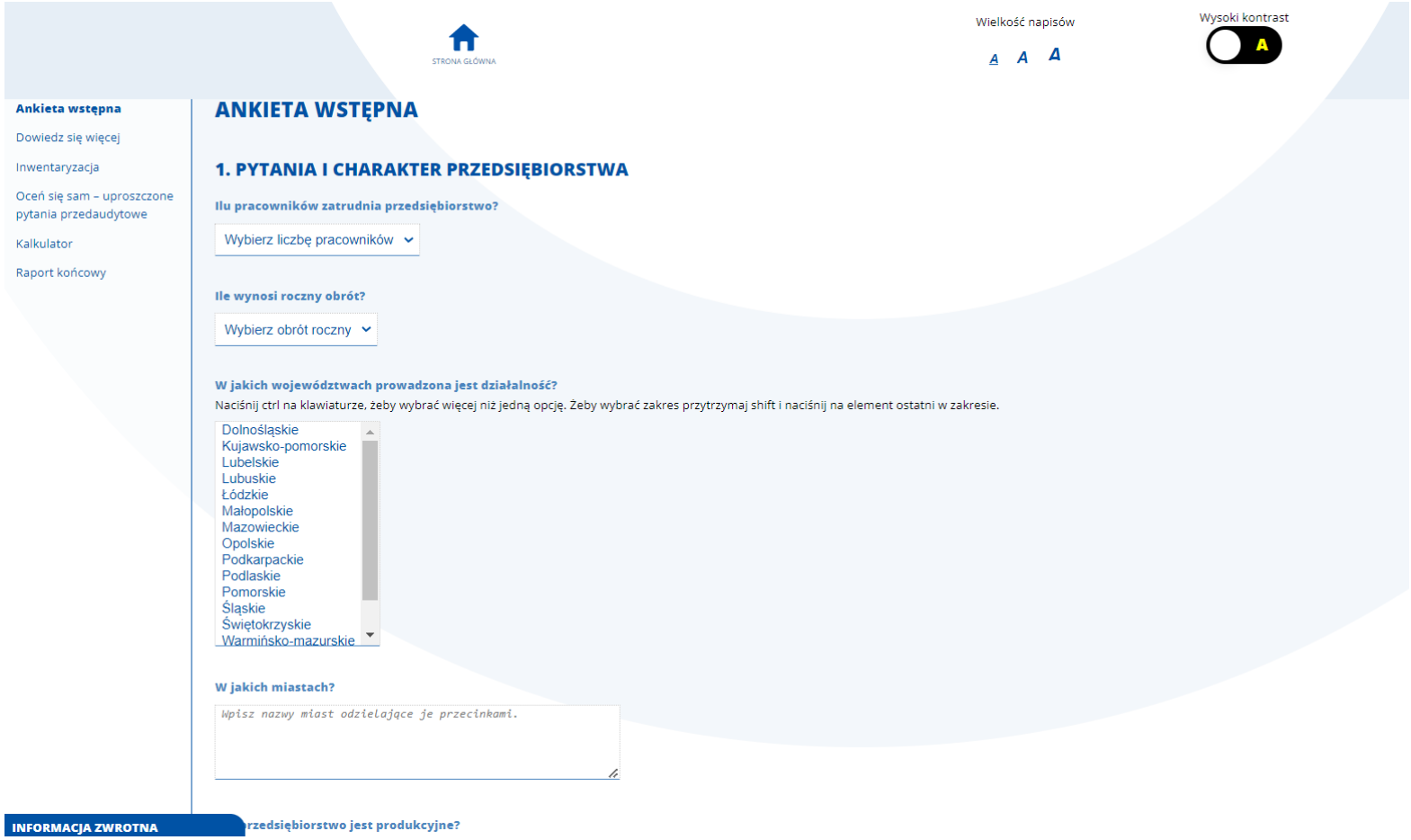
Narzędzia dla MŚP – self-audyt



Źródło: https://audyt.kape.gov.pl/ankieta-wstepna

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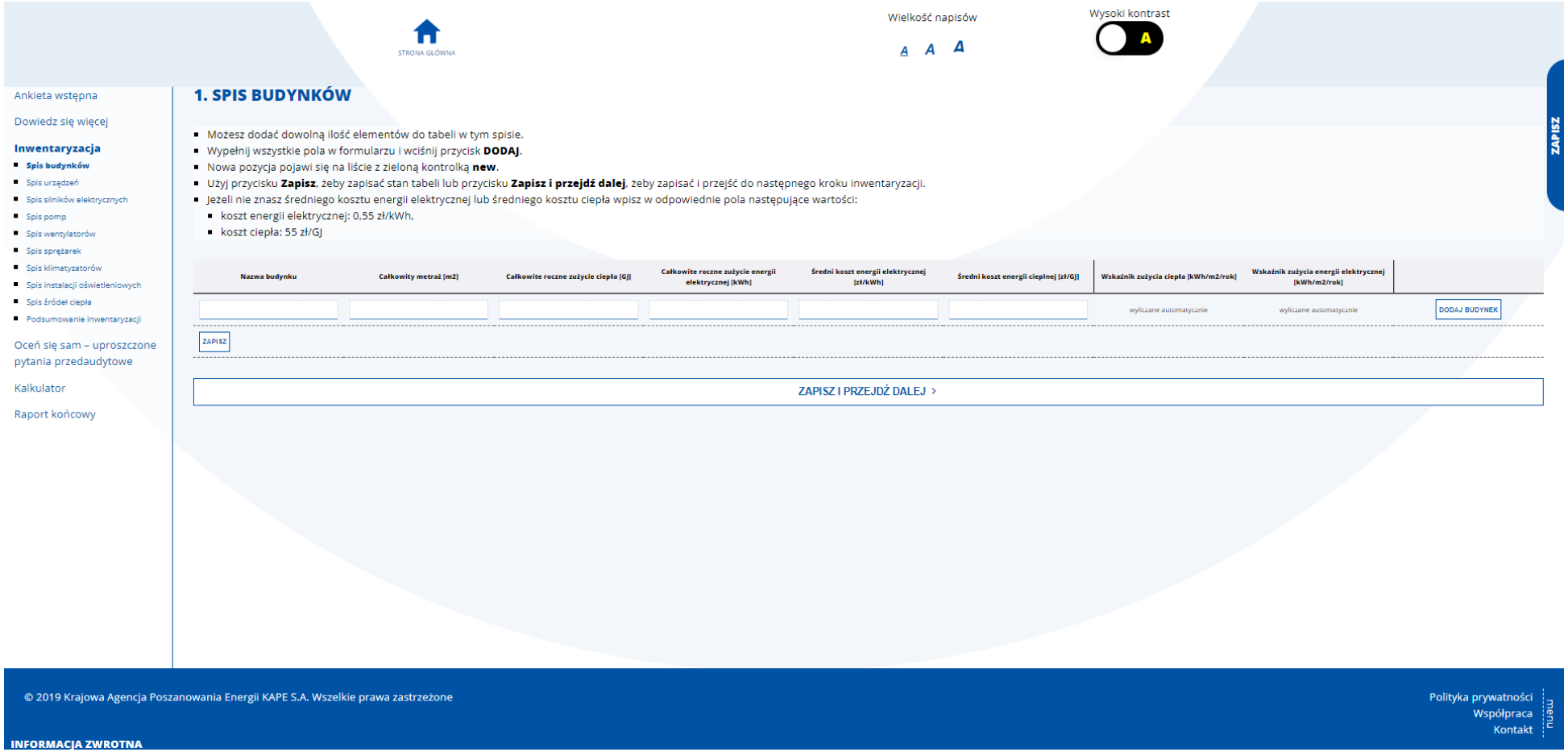
Narzędzia dla MŚP – self-audyt



Źródło: https://audyt.kape.gov.pl/inwentaryzacja/spis-budynkow

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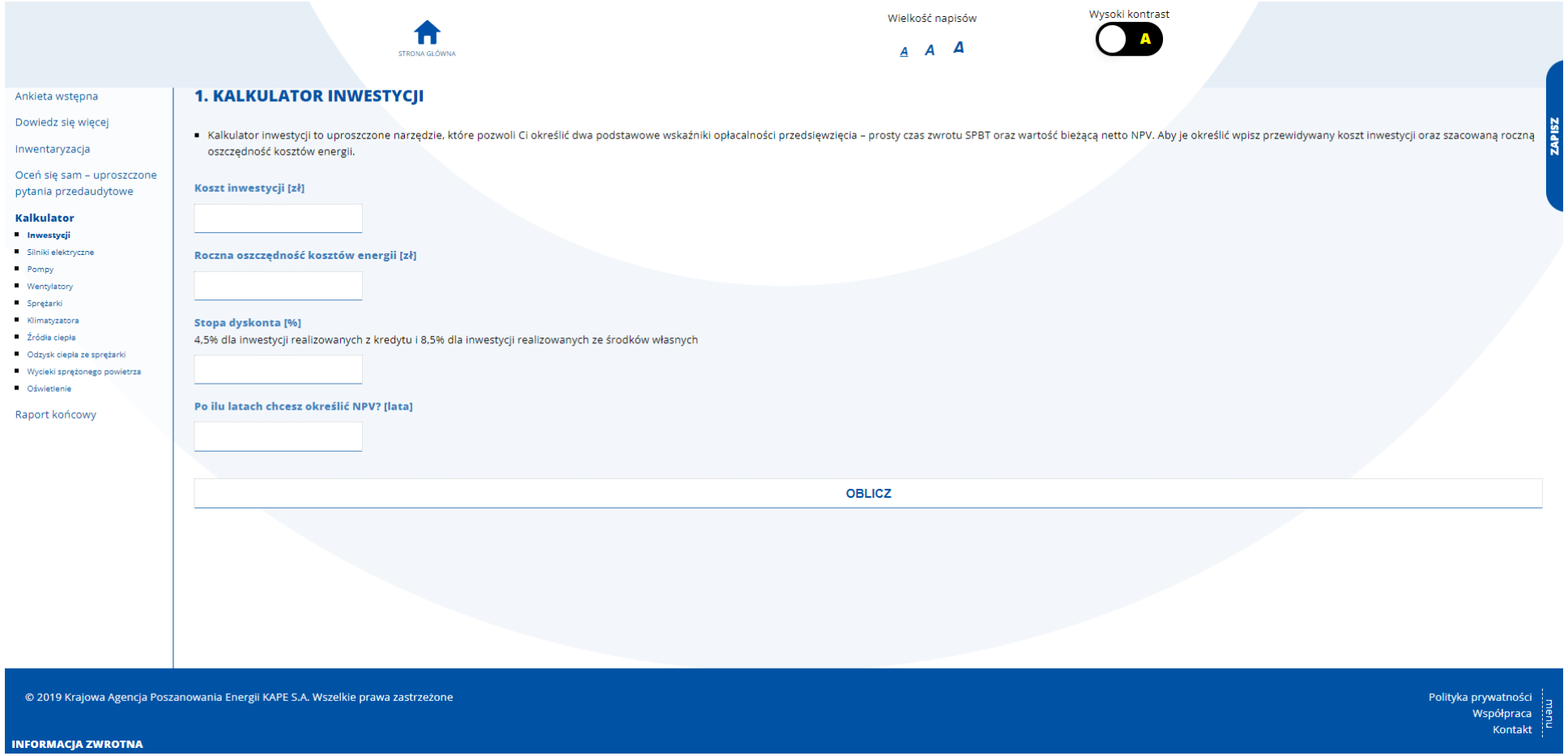
Narzędzia dla MŚP – self-audyt



STRONA GŁÓWNA

Wielkość napisów

Wysoki kontrast

Ankieta wstępna

Dowiedz się więcej

Inwentaryzacja

Oceń się sam – uproszczone pytania przedaudytowe

Kalkulator

- Inwestycji
- Silniki elektryczne
- Pompy
- Wentylatory
- Sprężarki
- Klimatyzatora
- Źródła ciepła
- Odzysk ciepła ze sprężarki
- Wycieki sprężonego powietrza
- Oświetlenie

Raport końcowy

1. KALKULATOR INWESTYCJI

- Kalkulator inwestycji to uproszczone narzędzie, które pozwoli Ci określić dwa podstawowe wskaźniki opłacalności przedsięwzięcia – prosty czas zwrotu SPBT oraz wartość bieżącą netto NPV. Aby je określić wpisz przewidywany koszt inwestycji oraz szacowaną roczną oszczędność kosztów energii.

Koszt inwestycji [zł]

Roczna oszczędność kosztów energii [zł]

Stopa dyskonta [%]

4,5% dla inwestycji realizowanych z kredytu i 8,5% dla inwestycji realizowanych ze środków własnych

Po ilu latach chcesz określić NPV? [lata]

OBLICZ

ZAPISZ

© 2019 Krajowa Agencja Poszanowania Energii KAPE S.A. Wszelkie prawa zastrzeżone

INFORMACJA ZWROTNA

Polityka prywatności
Współpraca
Kontakt

menu

Źródło: https://audyt.kape.gov.pl/kalkulator/inwestycji

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Narzędzia dla MŚP

5. E-Doradca MŚP

Pomaga w odnalezieniu odpowiedzi na pytania związane z efektywnością energetyczną w przedsiębiorstwie. Zawiera on artykuły dotyczące m.in. Silników, pomp, klimatyzacji czy OZE, które zostały podzielone na bloki tematyczne. Narzędzie wybiera artykuły najbardziej zbliżone tematem do zadanego pytania i proponuje je czytelnikowi.

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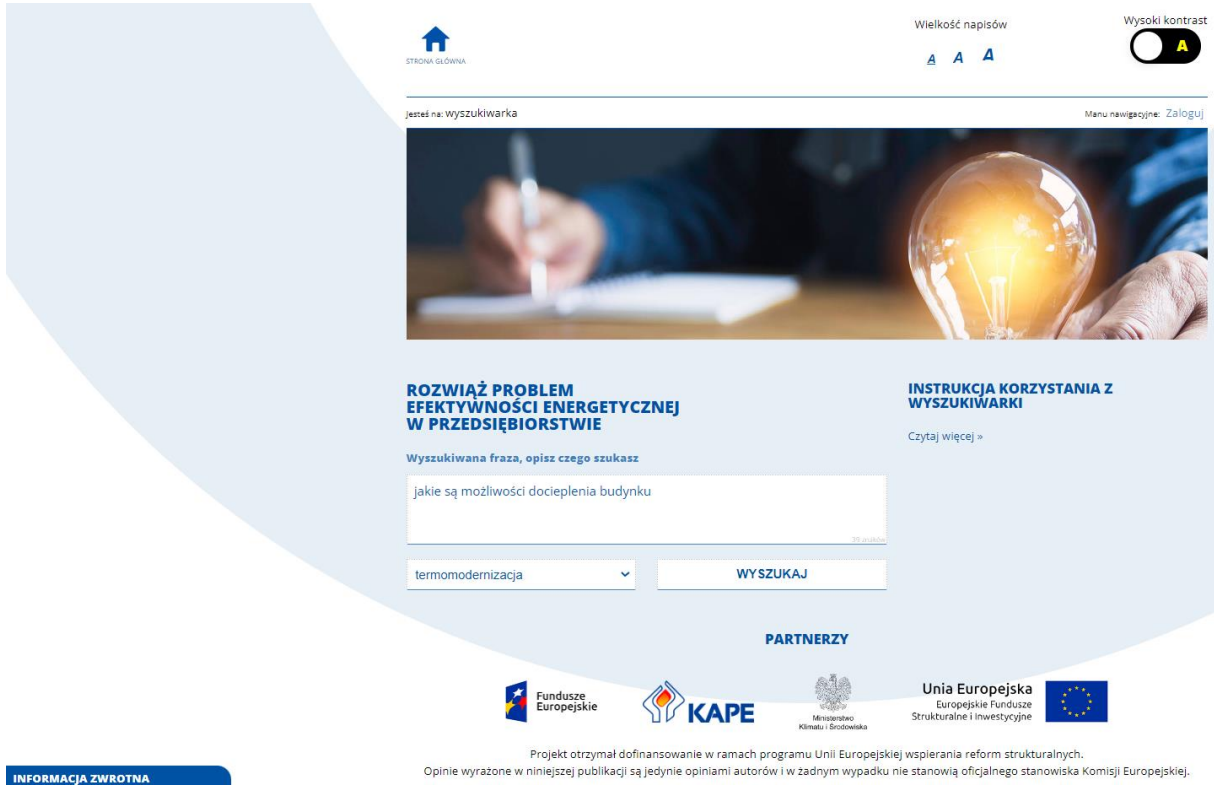
Narzędzia dla MŚP



Materiał izolacyjny	Koszt materiału izolacyjnego (zł/m^2)	Koszt materiałów elewacyjnych (zł/m^2)	Robocizna (zł/m^2)	Razem (zł/m^2)
Wełna mineralna 10 cm	26-72	System z tynkiem akrylowym – około 30	66	122-168
Wełna mineralna lamelowa 10 cm	31-40	System z tynkiem akrylowym – od 30	66	127-136
Styropian fasadowy biały	14-23	System z tynkiem akrylowym – od 30	52	96-105
Styropian fasadowy grafitowy	18-28	System z tynkiem akrylowym – od 30	52	100-110
Polistyren ekstrudowany	36-64	System z tynkiem akrylowym – od 30	52	118-146
Płyty PIR	61-77	System z tynkiem akrylowym – od 30	52	143-159
Piana natryskowa	90-155	Rusz, wiatroizolacja i deski	35	215-280

Źródło: https://audyt.kape.gov.pl/search

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Narzędzia dla MŚP

6. Kurs e-learningowy

Zawiera tematy związane z: efektywnością energetyczną w przedsiębiorstwie, zarządzaniem energią, monitorowaniem energii, audytem energetycznym, działaniami nisko i bezkosztowymi oraz narzędziami wsparcia. Uczestnik kursu wykonuje również ćwiczenia i testy, które mają na celu utrwalenie wiedzy.

Link do kursu: https://akademia.parp.gov.pl/course/view.php?id=83 – kurs trwa około 6 h i jest podzielony na 5 rozdziałów. Każdy rozdział kończy się testem.

Po zakończeniu całego kursu uczestnik otrzymuje certyfikat.

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Partnerzy projektu DEESME

Nie przegap i subskrybuj

DEESME newsletter!

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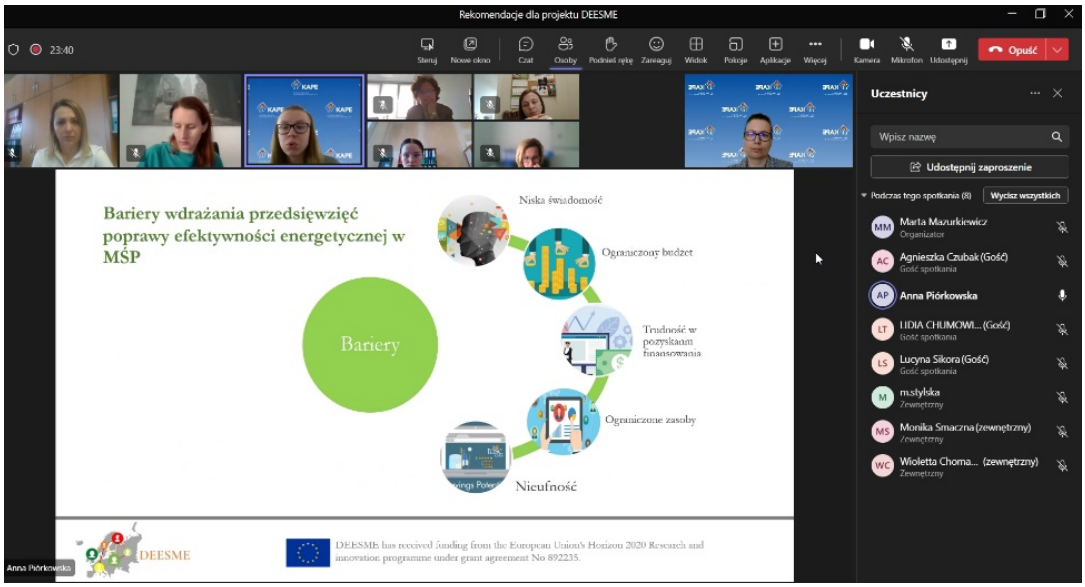
Screenshot from online meeting:

3rd Workshop, 23/03/2023: Screenshot from online meeting:


Rekomendacje dla projektu DEESME
23:40
Opuść
Uczestnicy
Wpisz nazwę
Udostępnij zaproszenie
Podczas tego spotkania (8)
Wyciisz wszystkich
Marta Mazurkiewicz
Organizator
Agnieszka Czubak (Gość)
Gość spotkania
Anna Piórkowska
LIDIA CHUMOWI... (Gość)
Gość spotkania
Lucyna Sikora (Gość)
Gość spotkania
m.stylska
Zewnętrzny
Monika Smaczna (zewnętrzny)
Zewnętrzny
Wioletta Choma... (zewnętrzny)
Zewnętrzny
Bariery wdrażania przedsięwzięć poprawy efektywności energetycznej w MŚP
Bariery
Niska świadomość
Ograniczony budżet
Trudność w pozyskaniu finansowania
Ograniczone zasoby
Nieufność
DEESME
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Anna Piórkowska

Wstęp do efektywności energetycznej, czyli audyt energetyczny oraz systemy zarządzania energią

Mgr inż. Anna Piórkowska

KAPE

Krajowa Agencja Poszanowania Energii S.A.

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eko MAŁOPOLSKA dla KLIMATU

Life

NFOŚiGW

Małopolskie Centrum Przedsiębiorczości

15 lat

INSTYTUCJA WOJEWÓDZTWA MAŁOPOLSKIEGO

Projekt DEESME otrzymał dofinansowanie z unijnego programu badań naukowych i innowacji "Horyzont 2020" w ramach umowy o udzielenie dotacji nr 892235.

DEESME

National schemes for energy efficiency in SMEs

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Efektywność energetyczna w firmie oraz jej wielorakie korzyści

Anna Piórkowska, KAPE

23.03.2023

Plan prezentacji

- O projekcie
- Implementacja Art. 8 Dyrektywy o Efektywności Energetycznej i wyzwania z niej wynikające
- Podejście DEESME – jak wspiera firmy?
- DEESME a wielorakie korzyści
- Rekomendacje

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O projekcie

Projekt DEESME ma na celu promowanie dyrektywy UE w sprawie efektywności energetycznej (EED) poprzez wspieranie przedsiębiorstw, a zwłaszcza MŚP, we wdrażaniu środków oszczędzania energii w celu wykorzystania technologii niskoemisyjnych, poprawy efektywności materiałowej / zasobów i opracowania systemów energii odnawialnej.

Podejście DEESME o wielorakich korzyściach ma na celu powiązanie środków efektywności energetycznej z korzyściami nieenergetycznymi i ogólnymi korzyściami biznesowymi. Dzięki temu zarządzanie efektywnością energetyczną może być powiązane z zarządzaniem przedsiębiorstwem i celami strategicznymi firmy.

DEESME ma na celu rozpowszechnianie koncepcji wielorakich korzyści, która została już ukształtowana w europejskim projekcie MBenefits H2020, oraz wspieranie MŚP w dostrzeganiu wielorakich korzyści płynących z audytów energetycznych i systemów zarządzania energią. Proponowane podejście oparte na wielorakich korzyściach zachęci MŚP do spojrzenia na zarządzanie energią z nowej perspektywy, która łączy efektywność energetyczną z rozwojem i zwiększeniem konkurencyjności przedsiębiorstw.

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Implementacja Art. 8 Dyrektywy o Efektywności Energetycznej

Dyrektywa dotycząca efektywności energetycznej ustanawia ramy koniecznych do podjęcia środków oraz spełnienia wymogów zapewniających bardziej efektywne wykorzystanie energii w podaży i popycie. W Art. 8 Dyrektywy zaproponowano sposoby osiągnięcia tego celu, zobowiązując państwa członkowskie do promowania i ułatwiania wdrażania audytów energetycznych i systemów zarządzania energią.

Według Komisji Europejskiej **efektywność energetyczna** odnosi się do zwiększenia efektywności zapotrzebowania na energię i dostaw energii, w szczególności poprzez opłacalne inicjatywy w zakresie oszczędności energii końcowej w kontekście dynamicznego reagowania na jej zapotrzebowanie, jak również bardziej wydajnego przetwarzania, przesyłu i dystrybucji energii. Jednocześnie duży nacisk jest położony na faktyczną realizację podjętych decyzji i spełnienie założonych celów.

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Wyzwania wdrożenia Art.8 Dyrektywy o Efektywności Energetycznej

Duże przedsiębiorstwa

1. Ograniczone zasoby do transpozycji Dyrektywy
2. Identyfikacja przedsiębiorstw zobowiązanych
3. Zapewnienie przestrzegania wymogów
4. Jakość audytów
5. Kompromis między raportowaniem i monitorowaniem
6. Zwiększenie liczby wdrażanych przedsięwzięć

MŚP

7. Wypracowanie nowych mechanizmów wsparcia
8. Ograniczone zasoby
9. Stymulowanie działań
10. Podnoszenie świadomości o dostępnym wsparciu
11. Wielorakie korzyści

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DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Podejście DEESME – jak wspiera ono firmy?

DEESME zapewni nowe podejście do audytu, które angażuje personel firm do tworzenia kultury wokół oszczędności energii i roli skutecznego zarządzania. Firmy będą angażowane bezpośrednio przez niektóre sieci partnerów, ale także poprzez instytucje współpracujące, takie jak stowarzyszenia firm handlowych, konsorcja i organizacje innych przedsiębiorstw oraz agencje energetyczne.

DEESME zorganizuje sesje informacyjne i szkoleniowe, a także warsztaty i wizyty, których celem będzie dotarcie do 500 uczestników. Umożliwi to podniesienie świadomości wśród przedsiębiorstw na temat wielorakich korzyści poprawy efektywności energetycznej. Zestawienie kluczowych zaleceń dotyczących ulepszenia programów krajowych zostanie opracowane na podstawie spotkań, biorąc pod uwagę TWOJĄ opinię. Zaangażowane będą także stowarzyszenia, federacje i inne kluczowe podmioty ze świata biznesu.

W celu zweryfikowania proponowanego podejścia do Systemów Zarządzania Energią (EMS), 20 firm z Włoch, Bułgarii, Polski i Niemiec otrzyma wsparcie w tworzeniu Systemów Zarządzania Energią poprzez testowanie modeli opracowanych przez DEESME. 50 firm otrzyma wsparcie w postaci audytu energetycznego wskazującego wielorakie korzyści efektywności energetycznej. Przygotowane zostaną narzędzia takie jak szablony, metody i procedury.

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Grupa docelowa

władze publiczne

- Wsparcie w pokonaniu wyzwań
- Wypracowanie rozwiązań wspierających wdrożenie Art. 8 Dyrektywy o Efektywności Energetycznej z uwzględnieniem wielorakich korzyści efektywności energetycznej

przedsiębiorstwa

- Wsparcie przedsiębiorstw (głównie MŚP) w opracowaniu i wdrożeniu przedsięwzięć poprawy efektywności energetycznej poprzez informacje, szkolenia, wdrożenie metodyki audytowej i systemów zarządzania energią z uwzględnieniem wielorakich korzyści

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Szansa dla przedsiębiorcy

Wypracowanie wskaźników i metod oceny wpływu projektów poprawy efektywności energetycznej na firmę.

Między innymi:

- **Redukcja kosztów utrzymania**
- **Wdrażanie nowych produktów i usług**
- **Wzrost innowacyjności**
- **Wzrost produktywności**
- **Poprawa jakości produktów i usług**
- **Ograniczenie śladu węglowego**
- **Poprawa bezpieczeństwa**
- **Pozyskanie nowych klientów**

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Wielorakie korzyści poprawy efektywności energetycznej

Na podstawie: IEA, 2015, Capturing the Multiple Benefits of Energy Efficiency

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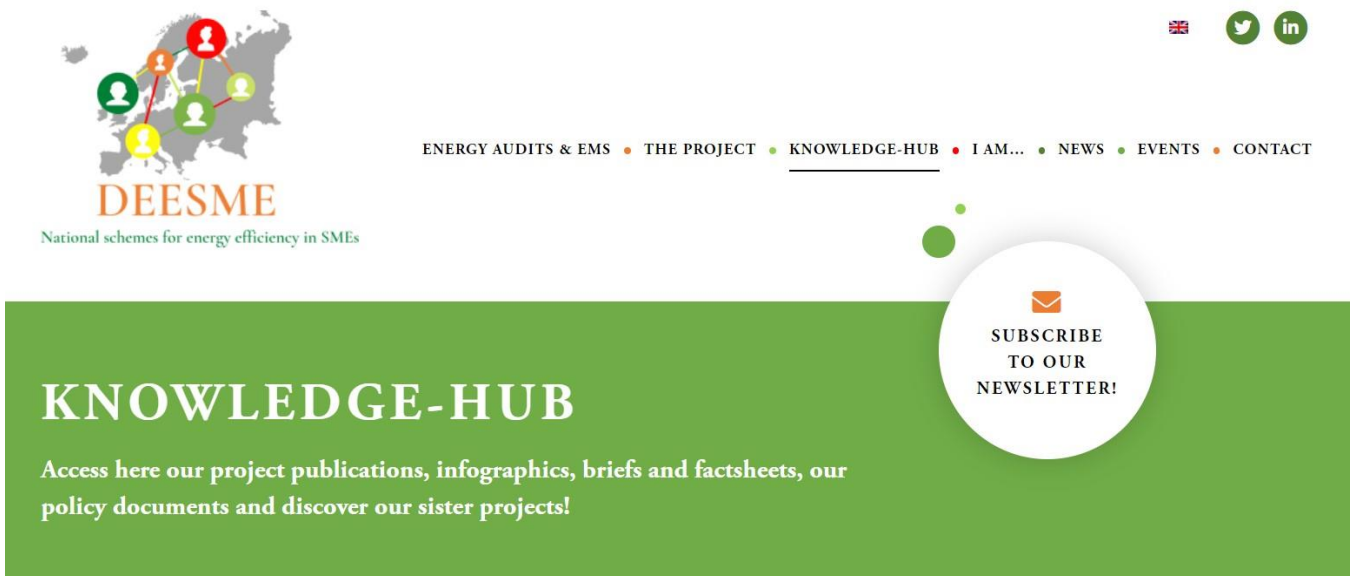
Wielorakie korzyści poprawy efektywności energetycznej – baza wiedzy



Metodyka uwzględnienia wielorakich korzyści przy wykonaniu audytu energetycznego

https://www.deesme.eu/wp-content/uploads/2021/09/D3.1_Multiple-benefits-approach-of-energy-audit.pdf

Metodyka uwzględnienia wielorakich korzyści przy wdrożeniu systemów zarządzania energią

https://www.deesme.eu/wp-content/uploads/2021/11/D3.2_DEESME-Final_22-10-21.pdf

Dedykowane narzędzie do analizy wielorakich korzyści

https://www.deesme.eu/the-integrated-multiple-benefits-tool/

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Bariery wdrażania przedsięwzięć poprawy efektywności energetycznej w MŚP

Bariery

Niska świadomość

Ograniczony budżet

Trudność w pozyskaniu finansowania

Ograniczone zasoby

Nieufność

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Rekomendacje

1. Czy Państwa zdaniem przedsiębiorstwa są świadome korzyści płynących z przeprowadzenia audytu energetycznego i wdrożenia jego wyników?

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Rekomendacje

2. Jakie zachęty mogłyby zwiększyć udział przedsiębiorstw w działaniach na rzecz efektywności energetycznej?

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Rekomendacje

3. Czy promowanie poza energetycznych korzyści płynących z audytów mogłoby zwiększyć liczbę MŚP przeprowadzających audyt? Na jakie korzyści warto zwrócić uwagę?

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Rekomendacje

4. Czy opracowanie materiałów informacyjnych dla przedsiębiorstw zwiększyłoby liczbę przeprowadzonych audytów? Czy byliby Państwo skłonni udostępnić takie materiały przedsiębiorcom?

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Rekomendacje

5. Czy obowiązek wskazywania przez audytorów poza energetycznych korzyści płynących z audytów pozwoliłby przedsiębiorstwom zrozumieć lepiej korzyści płynące z wdrożenia działań zwiększających efektywność energetyczną?

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Partnerzy

Nie przegap i subskrybuj

DEESME newsletter!

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DEESME

National schemes for energy efficiency in SMEs

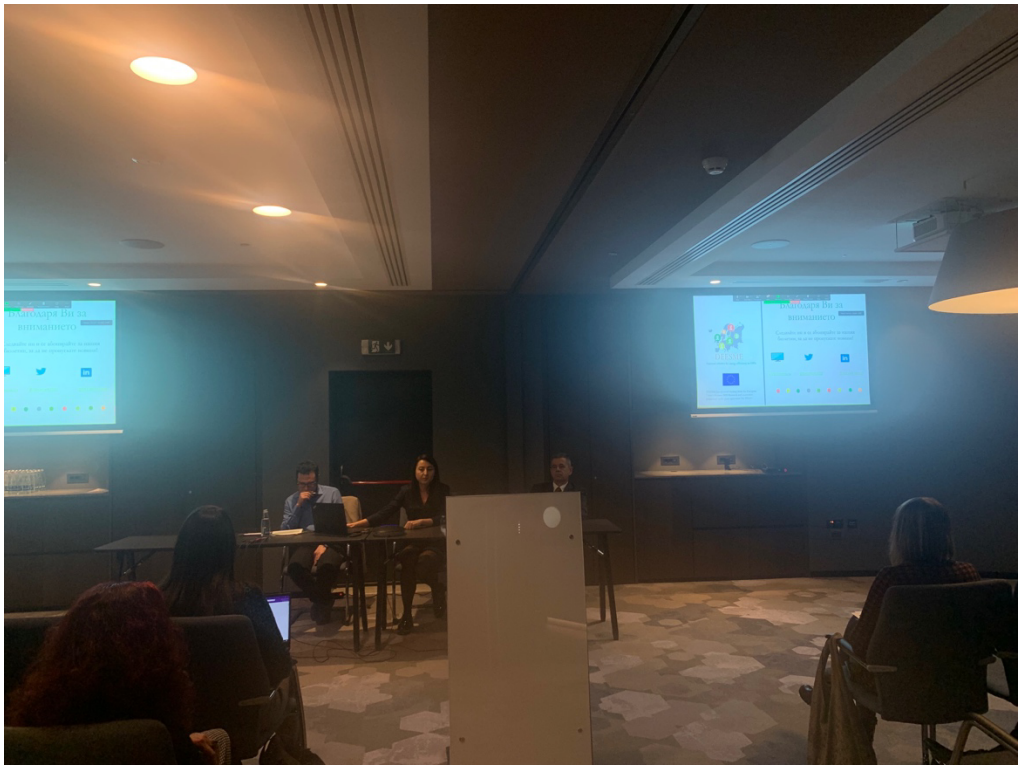
DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Dziękuję!

Anna Piórkowska
E-mail: apiorkowska@kape.gov.pl
Tel: +48 785 990 022

BULGARIA

Large national event, 29/11/2022: Picture from presenters



Agenda

XVI National Conference of the Association of Bulgarian Energy Agencies

Energy Efficiency and RES – how to meet the challenges of the energy transition and the energy poverty

29-30.11.2022, Sofia, hotel Hyatt Regency

29 November	
09:30 – 10:00	**Registration**
10:00 – 10:05	**Welcome and opening of the conference** *Liyana Adjarova, Association of Bulgarian Energy Agencies*
PANEL I	**FINANCIAL INSTRUMENTS FOR ENERGY EFFICIENCY IN THE INDUSTRY** *National roundtable for financing energy efficiency investments in Bulgaria*
10:05 – 10:10	**Presentation of the outcomes from the previous roundtable** *Dragomir Tzanev, EnEffect*
10:10 – 10:25	**Financing opportunities for sustainable energy projects in the Operational programme "Innovations and competitiveness"** *Representative from the Ministry of Innovation and Growth (invited)*
10:25 – 10:40	**Best practices for financing sustainable energy projects in the industry and small and medium-sized enterprises** *Sophia Kassidova, Bulgarian Development Bank (invited)*
10:40 – 10:55	**The business view: What is necessary to meet the challenges of the energy crisis?** *Dobri Mitov, Bulgarian Industrial Association*
10:55 – 11:15	Q & A
11:15-11:30	**Coffee break**
Parallel session 1: **Available financial instruments in support of energy efficiency and RES in the industry and SMEs**	

11:30-13:00	Presentations (10 minutes each) from representatives of commercial banks and ESCOs Invited: UniCredit Bulbank, UBB, Postbank, Fibank, ProCredit, Alliance for Energy Efficiency Discussion (1 hr) ➢ What are the trends in the market for energy efficiency and renewable energy solutions and which are the sectors and technologies that are attracting the most interest? ➢ Is the OP "Competitiveness and Innovation" contributing to the interest in financing sustainable energy? ➢ What are the expectations for the quality of projects and the requirements for results monitoring? Participants (invited): BIA, Econoler, AEE, BCC, commercial banks, Fund of Funds, Bulgarian Development Bank, EERSF, financial institutions, NGOs, energy services providers, local authorities, energy consultants, etc.
Parallel session 2:	**Energy management systems in the industry and SMEs**
11:30-13:00	Presentations (10 minutes each): ➢ Energy management systems in the enterprises (Stanislav Andreev, EnEffect) ➢ Energy analysis of RES projects (Anton Ivanov, BEMF, invited) ➢ Results from the project DEESME - National Schemes for Energy Efficiency in SMEs (representatives from SEDA and ECQ, invited) Discussion (1 hr) ➢ Do national funding programmes create the necessary conditions for sustainable implementation of energy management systems? ➢ How can we monitor the quality and verification of implemented projects and the sustainability of the results? ➢ What technical assistance is needed for enterprises to maximize their potential for energy savings and to realize the produced energy? Participants (invited): SEDA, AEE, EcoEnergy, NTEF, EERSF, energy agencies, financial institutions, energy services providers, energy experts, etc.
13:00-14:00	**Lunch**
Closing plenary: **LESSONS LEARNT AND NEXT STEPS**	
14:00-14:20	**Presentation of the outcomes from the sessions** *Moderators from the two sessions*
14:20-15:00	**Demand for clean energy projects in the industrty and recommendations for the design of the national support programmes** *Plenary with representatives of financial institutions, public authorities, professional and industry associations, energy experts*
Панел II	**Решения за декарбонизация и ниско-емисионно градско развитие** *Модератор ??????, ……..*

15:00 – 15:15	**Декарбонизация и ниско-емисионно енергийно планиране и развитие на общинско ниво чрез проект PadovaFit** *Ина Карова, Енергийна Агенция – Пловдив*
15:15 – 15:30	**Въвеждане на градски ниско емисионни зони за подобрение на качеството на въздуха** *Лияна Аджарова, Енергийна Агенция-Пловдив*
15:30 – 15:45	**Гражданската наука за подобряване качеството на въздуха чрез проект CompAir** *Милена Агопян, Енергийна Агенция – Пловдив*
15:45 – 16:00	**Покривни PV инсталации със системи за съхранение на енергия в социални домове за справяне с енергийната бедност и подкрепа на социалните дейности в общините** *Ангелина Томова, Енергийна Агенция – Пловдив*
16:00 – 16:15	**Инструмент за пред-проектни проучвания за производство на водород, проект DanuP-2-Gas** *Вера Генадиева, Ангел Николаев, ЧИЕЦ*
16:15 – 16:30	**Акредитирани изпитвания за качество на био-горивата – гаранция за ресурсна и енергийна ефективност в отоплението от биомаса** *Ваня Маркова, Енергийна Агенция – Пловдив*
16:30 – 17:00	**Дискусия**
17:00 – 18:00	**Заключителни думи. Кафе за довиждане**
30 November	**Energy Transition and Energy Poverty – the new challenges**
Panel III	Legislative Aspects for the Development of Energy Communities in Bulgaria and Good Practices in the European Union ***Moderator: Dr Zdravko Georgiev, SEA SOFENA***
09:00 – 09:30	**Energy Communities according to the European Directives and their Regulation in the Countries of the European Union** *Dr Nadia Nikolova-Deme, SEA SOFENA*
09:30-09:50	**Legal Aspects of Energy Communities in Bulgaria** *Christian Dimitrov, Greenpeace*
09:50-10:10	**Good Practices for the Development of Energy Communities in the EU. The Experience of France** *Marc-Antoine Andrieux, SEA SOFENA*
10:10-10:30	**Results of the CONGREGATE Project: Models for the Development of Energy Communities in Sofia, Dobrich and Burgas** *Dragomir Tsanev, EnEffect*
10:30-11:00	**Bulgaria's Need for Legislation and Policies for RES Development** *Georgi Stefanov, WWF Bulgaria*
11:00-11:30	**Coffee break**
11:30-11:50	**Good Practices in the Transposition of European Legislation in Support of Citizen Energy Projects** *Lyubimka Georgieva, Black Sea Energy Research Center*
11:50-13:00	**Conclusions Regarding the Necessary Changes in Bulgarian Legislation for the Development**

	of Energy Communities *Discussion with the participation of representatives of public bodies, professional organizations, energy experts, etc.*
13:00 – 14:00	**Lunch**
Панел IV	**Solutions to overcome energy poverty** *Модератор: арх. Евелина Стойкова, Енергиен център София*
14:00 – 14:20	**The Initiative "Energy Poverty Advisory Hub"** *Arch. Evelina Stoykova, Sofia Energy Centre*
14:20 – 14:40	**Национални пътни карти за справяне с енергийната бедност, Проект PowerPoor.** *Лили Щамлер, СОФЕНА*
14:40 – 15:00	**Good practice examples of projects and initiatives to overcome energy poverty** *Arch. Evelina Stoykova, Sofia Energy Centre*
15:00 – 15:20	**Лятна енергийна бедност и мерки за понижаване необходимостта от охлаждане, проект COOLTORISE** *Георги Симеонов, ЦУИР - Пазарджик*
15:20-15:40	**One-stop-shop for private dwelling buildings, project UPSTAIRS** *Ivanka Pandelieva-Dimova, Sofia Energy Centre*
15:40-16:10	**Coffee break**
16:10-16:30	**How to apply for technical support from EPAH** *Arch. Evelina Stoykova, Sofia Energy Centre*
16:30- 17:00	**Programmes and initiatives for decarbonization of the residential heating and cooling** *Genady Kondarev*
17:00-17:25	**Residential heating: calculator for comparison of heating systems and results of audits in energy poor households** *Lazar Nikolaev, Angel Nikolaev, Black Sea Energy Research Centre*
17:25 -18:00	**Final discussion and conclusions**

SMAFIN Smart Financing Implementation	TRACK	ComAct	EnergyMeasures
POWERTY Interreg Europe European Union European Regional Development Fund	PadovAfit Expanded	replace	outPHit

PowerPoint presentation

DEESME

National schemes for energy efficiency in SMEs

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Резултати по проект DEESME: „Насочване на МСП и националните власти през енергийния преход чрез придобиване на допълнителни ползи и прилагане на подходи за управление на енергията"

Адмира Бошняку, Европейски център за качество ООД

29 ноември 2022 г.

Проектът DEESME

Обща информация

- ★ Програма: Хоризонт 2020
- ★ Вид дейност: CSA (Изграждане на нисковъгледно, устойчиво на климат бъдеще: сигурна, чиста и ефективна енергия)
- ★ Номер на проекта: 892235
- ★ Финансиране: 1 998 686, 25 €
- ★ Продължителност: 36 месеца (септември 2020 г. – август 2023 г.)
- ★ Координатор: Институт за европейска енергийна и климатична политика (IEECP)
- ★ Партньори: 9

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Проектът DEESME

Предизвикателства и резултати

Резултати в полза на МСП

- Инструмент за идентифициране на допълнителни ползи от подхода за енергийно обследване (Инструмент и наръчник)
- Система за управление на енергията в подкрепа на подхода за допълнителни ползи (Наръчник за имплементация)

Предизвикателства

- Включване на **500** предприятия, които да бъдат обучени;
- Енергийно обследване **в 50 предприятия** и внедряване на СУЕ в **25** от тях
- Ангажиране на **10 национални органа**, от които 5 ще приемат политически решения

DEESME

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Какво е подход на допълнителните ползи?

- ☑ енергийната ефективност има много екологични, социални и икономически ползи (IEA, 2014).
- ☑ повишена надеждност на процесите и продуктите, намалени разходи за експлоатация и поддръжка, повишена производителност, увеличен жизнен цикъл на оборудването, подобрена работна среда и др.

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Инструмент за идентифициране на допълнителни ползи

Подход

1

Бизнес анализ

Анализ на бизнес модела и структурата на разходите

2

Енергиен анализ

Енергийно обследване и оценка на въглеродния отпечатък

4

Подобряване на бизнес модела

Подобрение/иновация в бизнес модела

3

Анализ на допълнителните ползи

Идентифициране и оценка на допълнителните ползи

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Инструмент за идентифициране на допълнителни ползи

Бизнес анализ (анализ на бизнес модела)

Канава на бизнес модела

Проектиран за: | Проектиран от: | Дата: | Версия:

Разберете бизнес контекста и обосновката

Ключови партньори

Кои са нашите ключови партньори?
Кои са нашите ключови доставчици?
Кои ключови ресурси придобиваме от партньори?
Кои ключови дейности извършват партньорите?

Определя мрежата от доставчици и партньори, необходими за функционирането на корпоративния бизнес модел.

Ключови дейности

Какви ключови дейности изискват нашите предложения за стойност?
Нашите канали за разпространение?
Отношения с клиенти?
Потоци на приходите?

Определя стратегическите дейности, които трябва да бъдат извършени за създаване и подкрепа на предложения за стойност, достигане до клиенти, поддържане на взаимоотношения с тях и генериране на приходи (например закупуване на суровини, производство...)

Ключови ресурси

Какви ключови ресурси изискват нашите предложения за стойност? Физически, интелектуални, човешки, финансови?
Нашите канали за разпространение?
Отношения с клиенти?
Потоци на приходи?
Определя стратегическите активи, които едно дружество трябва да притежава, за да създаде и поддържа своя бизнес модел.

Предложения за стойност

Каква стойност предоставяме на клиента?
Кой от проблемите на нашите клиенти помагаме да бъде разрешен?
Какви пакети от продукти и услуги предлагаме на всеки потребителски сегмент?
Кои нужди на клиентите задоволяваме?

Определя пакета от продукти и услуги, който представлява стойност (ползи, които клиентът има от използването на продукта или услугата, предоставени от компанията) за конкретен потребителски сегмент.

Отношения с клиенти

Какъв тип взаимоотношения очаква всеки от нашите потребителски сегменти да установим и поддържаме с тях?
Кои сме установили?
Как са интегрирани с останалата част от нашия бизнес модел?
Колко скъпи са те?
Определя типа взаимоотношения, които дружеството установява с различните потребителски сегменти.

Канали

Чрез кои канали нашите потребителски сегменти искат да бъдат достигнати?
Как ще стигнем до тях сега?
Как са интегрирани нашите канали?
Кои работят най-добре?
Кои от тях са най-рентабилни?
Как ги интегрираме с рутината на клиентите?

Определя как дружеството достига до определен потребителски сегмент, за да представи и да му предостави своето предложение за стойност.

Потребителски сегменти

За кого създаваме стойност?
Кои са най-важните ни клиенти?

Определя общността от клиенти или бизнеси, на които дружеството има за цел да продаде своя продукт или услуги.

Структура на разходите

Кои са най-важните разходи, присъщи на нашия бизнес модел?
Кои ключови ресурси са най-скъпи?
Кои ключови дейности са най-скъпи?

Определя разходите, които дружеството ще трябва да направи, за да превърне своя бизнес модел в оперативен.

Потоци на приходите

За каква стойност наистина са готови да платят нашите клиенти?
За какво плащат в момента?
Как плащат в момента?
Как биха предпочели да плащат?
Колко всеки поток на приходи допринася за общите приходи?

DEESME

Инструмент за идентифициране на допълнителни ползи

Бизнес анализ (анализ на разходите)

DEESME

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Инструмент за идентифициране на допълнителни ползи

Енергиен анализ

Въглероден отпечатък

Обхват 1: **Директни емисии** на ПГ. Директните емисии на парникови газове възникват от физически от източници, които се експлоатират от проекта/процеса

Обхват 2: **Непреки емисии** на парникови газове, свързани с потреблението на енергия, консумирани, но не произведени от проекта.

Обхват 3: **Други непреки емисии** на парникови газове, които могат да се считат за последица от дейностите по проекта.

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DEESME has received funding from the European Union's Horizon 2020 Research and innovation programme under grant agreement No 892235.

Инструмент за идентифициране на допълнителни ползи

Анализ на допълнителните ползи

СТОЙНОСТНО ПРЕДЛОЖЕНИЕ

- подобрена ефективност на продукта/услугата, нови продукти (особено „зелени продукти“) и иновации;

ДЕЙНОСТИ

- производителност, използване, поддръжка, емисии/въглероден отпечатък, качество и инциденти/рискове;

РЕСУРСИ

- консумацията на енергия, потреблението на суровини/вода/консумативи, отпадъци, рециклиране, служители (удовлетвореност, здраве и сигурност, умения, обучение);

ПОТРЕБИТЕЛИ

- дял на „зелени клиенти“/ „зелени продажби“, нови клиенти, удовлетвореност на клиентите, лоялност на клиентите.

ПАРТНЬОРИ

- договори за зелени обществени поръчки, стратегически споразумения, базирани на приемането на стандартите на ISO), рискове от съдебни спорове, спазване на нормативните изисквания

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Подобряване на бизнес модела

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Благодаря Ви за вниманието

Следвайте ни и се абонирайте за нашия бюлетин, за да не пропускате новини!

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